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March 9, 1970

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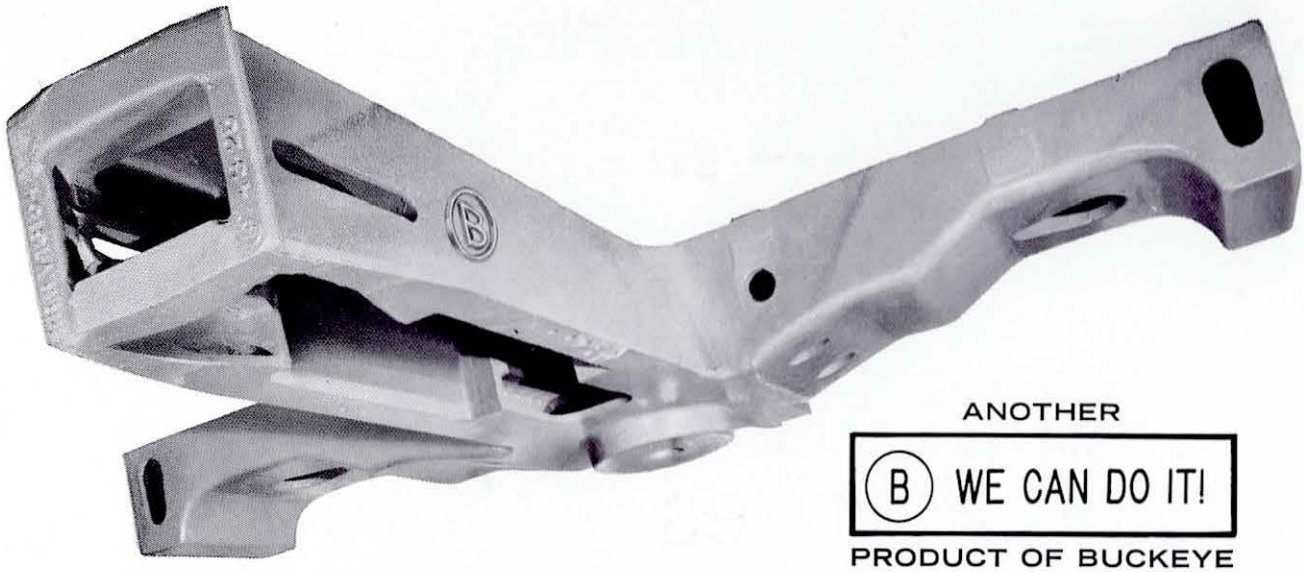

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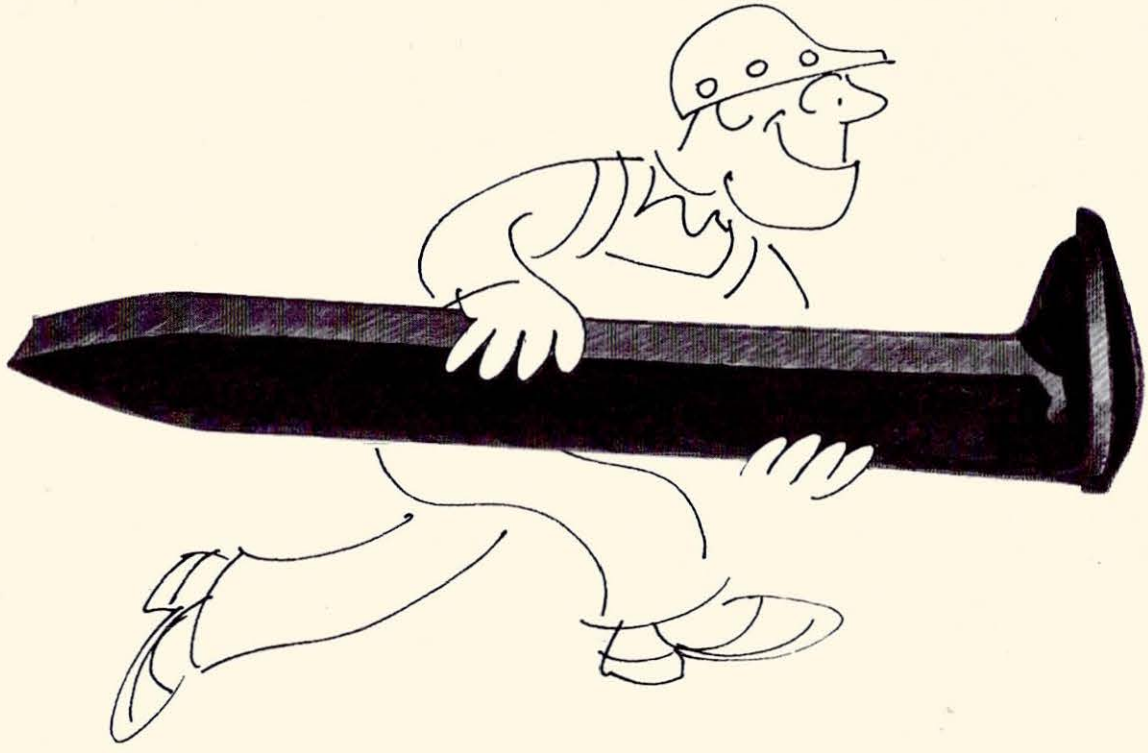
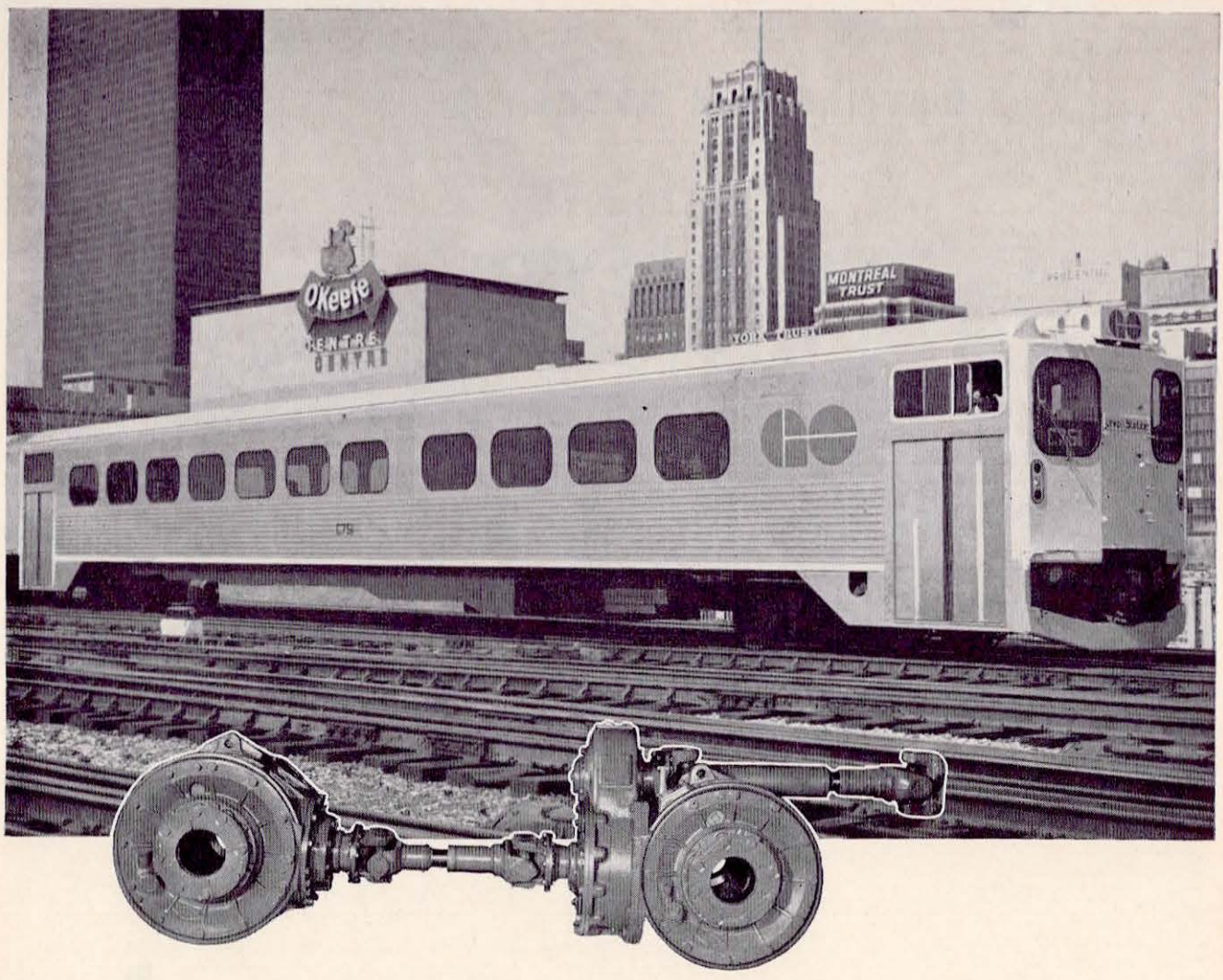


"Safety" Traction Drives: the power of the 70's



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New York, N.Y. 10007, 30 Church St.

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FRED C. MILES: Executive Editor

Mechanical: Fred N. Houser
Car & Locomotive Cyclopedia:
Charles L. Combes
Art Director: Maurice H. Mates
Art Editor: Marvin Friedman
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Production Manager: Fred B. Hecht
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Editorial and Executive Offices
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Mechanical: Robert D. Bartley
Engineering:
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Signaling & Communications:
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Washington, D.C. 20004,
National Press Bldg.
Washington Editor: Frank Malone

Brighton, Sussex, England
8 St. George's Place
International Editor:
John Levett

GEORGE DUSENBURY: Editorial Director

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Inside

LUTHER MILLER

WILL THE REAL IC PLEASE STAND UP?

Somehow, the notion has got around (in certain financial circles) that Bill Johnson and the other folks at Illinois Central are more interested in running a fast-buck conglomerate than a first-class railroad. The people who subscribe to this kind of thinking are, we suspect, the same people who subscribe to such publications as Forbes, whose March 1 report on IC carries a picture of Bill Johnson lighting a cigar and the comment that "Johnson has high hopes for IC's mouth-watering real estate in and around Chicago."

Now, mouth-watering is not a bad description of IC's real estate possibilities, as we are the first to acknowledge. But we think that a rather more important IC development—and one that Forbes either didn't have the space or the inclination to describe—involves something that is happening on and to the railroad property itself. Which explains why we allotted, in this week's issue, 70 inches of space to Merwin Dick's account of how the IC is, quite literally, building a roadway to tomorrow (pp. 17, 18, 19)—and only 10 inches to IC as a real-estate developer (p. 11). The moral of this tale being: Don't believe only what you read in the popular financial press. There's still a lot more to railroading than real estate.

MRS. THALER SAYS: "THERE MUST BE A BETTER WAY"

When he set out on a flying trip to research this week's story on airport access, Contributing Editor David Thaler ran into an immediate problem: Getting to the airport. Thaler lives in Montclair, N. J. There is no public transport from there to Newark Airport; and no cabs were to be had that frosty February morning. Like so many hapless air travelers nowdays. Thaler solved his own airport access problem by conscripting the family chauffeur—his wife Sara. "There must be a better way," sighed Sara as she let him off at Newark. And thus was born the headline for the report Thaler turned in a few days later (pp. 22-25). Thaler's first stop was Cleveland—which convinced him there is a better way. Everywhere he went, however, one nagging question arose: Money. Who will pay for the airport trains? Our own strong viewpoint on this subject is expressed on p. 76.

LINES ON NIXON

The art of labor relations has come a long way since George F. Baer, a turn-of-the-century coal and railroad tycoon, intoned, "The rights and interests of the laboring man will be protected and cared for—not by the labor agitators but by the Christian men to whom God in his infinite wisdom has given control of the property interests of the country." It was a heavenly idea; but it didn't work. President Nixon now thinks he has a better idea. Lines on Labor Columnist Gus Welty describes it on p. 16.

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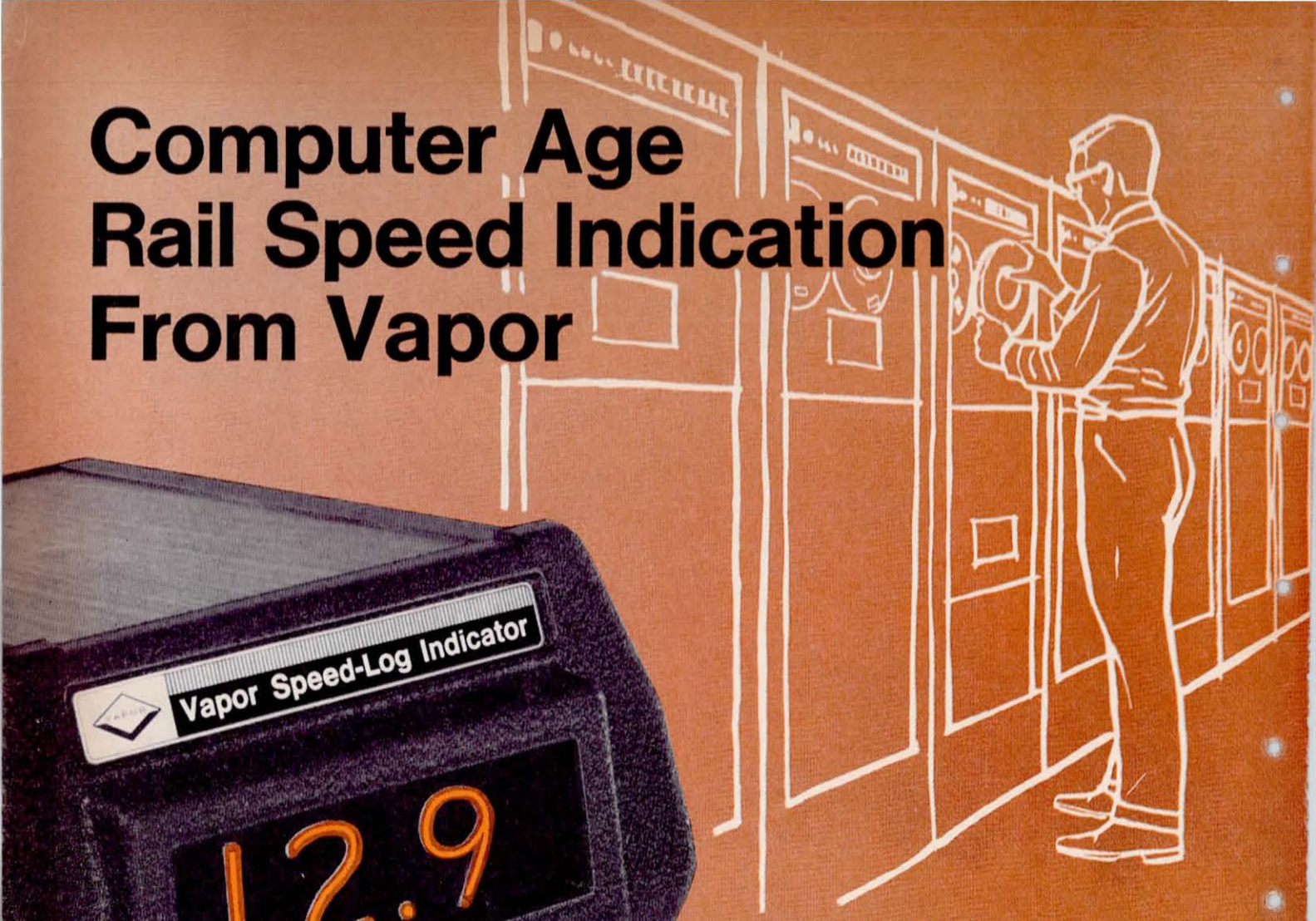

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RAILWAY AGE

MARCH 9, 1970

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DIVERSIFICATION	SP forms subsidiary to accelerate development of its land	p.11
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Short and Significant

FINANCIAL

LOOK AHEAD—WITH BOYD, GRAYSON, QUINN

What's the financial outlook for railroads? Three top-level officers—IC's Alan S. Boyd, Frisco's B. C. Grayson and Burlington Northern's William J. Quinn—will take a look at the future and its prospects, at an outlook conference scheduled by the Transportation Center at Northwestern, March 16-18. Moderator: A. D. Kerr of Black & Co.

IC, PC APPROVE CAPITAL BUDGETS

Illinois Central says it will spend about as much on capital improvements in 1970 as it did in 1969, but the Penn Central will spend $100 million less than it did last year. IC's capital expenditures will be $79 million, with two-thirds of the money going for new cars and locomotives. Penn Central will spend $170 million in 1970. Total industry spending is expected to show a 7% increase for the year.

FOR SALE: $100 MILLION OF EQUIPMENT PAPER

Union Pacific and General American each will raise $50 million in separate offerings of equipment trust certificates to finance purchase of cars and locomotives. UP will apply the proceeds of its offering toward the purchase of 35 GE 5,000-hp diesel-electric locomotives and 1,906 freight cars. General American says it plans to spend at least $50 million this year for additions to its freight-car fleet.

LABOR

THE ENGINEERS JOIN RLEA—AGAIN

In the 1940's, the Brotherhood of Locomotive Engineers withdrew from the Railway Labor Executives' Association. In 1958, BLE re-joined. In 1964, BLE withdrew. In 1970, BLE is re-joining. Reason: The union's executive committee thinks it's in BLE's best interest to be affiliated with "a recognized coalition of rail labor unions." RLEA, of course, is now one of two coalitions. The other, the Congress of Railway Unions, was formed by five unions after they withdrew from Railway Labor Executives' Association last year.

AGREEMENT SET ON HEALTH/WELFARE

One possible source of rail management/labor conflict has been removed, with agreement on an improved health/welfare benefit program. The new pact covers a two-year period—and will increase railroad-paid premiums by an estimated $70 million per year.

TRANSIT

A ROAD SHOWS BOMBS IN BOSTON

An Inner Belt freeway for Boston seemed like a good idea when John A. Volpe was governor of Massachusetts. But the present governor, Francis W. Sargent, thinks that money being invested in highways might be better spent on mass transit. And Volpe, now Secretary of Transportation, has agreed to study the possibility. Specifically, Volpe agreed to cancel a $5.5-million study of less costly alternatives—like transit. Sargent wants to go even further: He asked that the Federal government's 90% share of interstate highway costs be made available for mass transit and related projects. Volpe didn't endorse that.

BETTER COMMUTER SERVICE FOR PITTSBURGH?

Port Authority of Allegheny County (PAT) is studying the feasibility of expanding commuter service on the B&O between Pittsburgh and McKeesport and re-establishing service on the Penn Central between Pittsburgh and Tarentum. Also under study is the possibility of subsidizing the B&O service to McKeesport and initiating Penn Central service up the Allegheny River valley, possibly to New Kensington.

CHICAGO'S TRANSIT PLEA: HELP!

CTA management—and patrons—are looking to Washington and to the state capitol in Springfield (and to Chicago's City Hall) for some kind of financial help which would permit the Authority to hold its basic fare at 40 cents. The state legislature is considering some form of subsidy. Some form of debt-relief legislation may be pushed in Washington. Meanwhile, CTA is studing "last-gasp measures" to hold the line on fares for a few more months.

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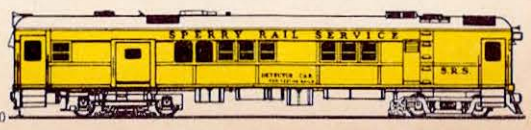


RAILWAY AGE NEWS

Rate plea cites sagging earnings

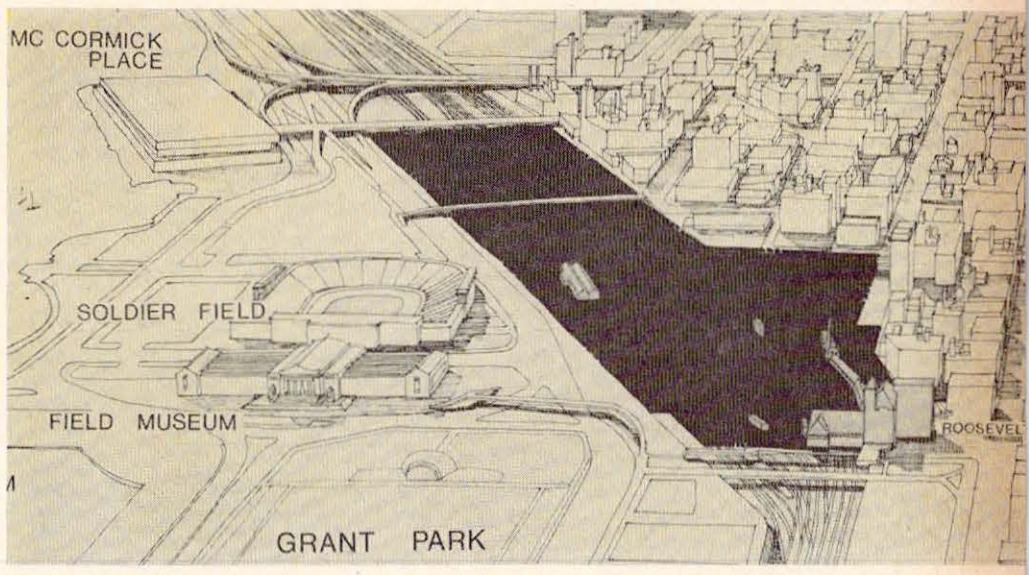
Claiming that ability to give adequate service is in jeopardy from depressed earnings, western and eastern railroads have gone to the ICC for a 6% increase in freight rates. The carriers told the Commission that operating costs will increase by $559 million in 1970 alone and a 6% increase would bring an extra $550 million in revenue.

Abstainers from the request include Southern, Seaboard, Louisville & Nashville and Florida East Coast. Southern said more time is needed for "evaluation." The Southern District showed a 2.6% rise in net income for fourth quarter 1969, AAR reports, compared with a 14% drop for the West and the East's drop from a $14 million profit to a $15 million deficit. For the entire industry, AAR reports a net income drop of 25% in fourth quarter 1969, despite the November 6% rate boost. For all of 1969, AAR reports, the East dropped 74% in net income, the West dropped 7.6%, and the South was up 18.8%.

Milwaukee seeks community help

Milwaukee Road is the latest Chicago-area commuter line to propose creation of a mass transit district which would be eligible for federal aid for purchase of new equipment. Efforts to form such a district are being concentrated now on Milwaukee's line west from Chicago; a similar proposal may be made later to communities on the road's line to the north. Milwaukee's needs could be summed up in one word: More—more seats, more cars, more locomotives, more rush-hour trains. But, the road is telling its west-line commuters, "New private capital for investment in equipment simply cannot be generated by the service itself, if fares are to be held at levels that will make commuting by rail the attractive alternative it now is for large numbers of people."

Illinois Central is already involved with a transit-district setup and has new equipment on order.



NEW BUILDINGS planned for ICI's 104 acres include hotel, transportation terminal.

ICI plans changes in Chicago's skyline

Within a few years, there may be a new city growing up along Chicago's lakefront. Planning is well advanced for development of Illinois Central Industries properties at the north end of ICI's holdings. Now, preliminary plans are being made for a major development covering about 104 acres between Illinois Central Station and Chicago's rebuilt McCormick Place exposition hall.

First on the construction schedule will be a new ICI office building, a transportation terminal and a 1,000-room hotel. Another office building and five apartment towers may also be built on the 12 acres which will be the first to be developed jointly by ICI and Ogden Development Corp. Estimated cost of the first office building, terminal and hotel: $50 million.

SP: Land development...and a "train-on" case

Southern Pacific aims to speed up the development of its 3.8 million acres of land holdings and 1.3 million acres of mineral-rights land. Southern Pacific Land Company will be set up as a direct subsidiary of Southern Pacific Company, with three operating divisions—industrial development, natural resources and real estate. A number of alternatives are under study—including entry into joint ventures; acquisitions or mergers involving land-use or -development companies; acquisition of additional real estate; re-evaluation of leasing policies; and development of existing land holdings through use of SP resources or through outside financing.

While SP's real estate move made big headlines, another, less-publicized development underscored the carrier's determination to shore up another area of its operations.

The ICC has ordered Southern Pacific to maintain three-times-a-week passenger service on its central route between Utah and California—and SP is proposing a similar plan for its "Cascade" trains operating between Portland and the San Francisco Bay area. SP says the move is designed as "a method of saving the train for those people who want to use it, by cutting the heavy losses it suffers in daily operation. The primary use of the 'Cascades' today is for pleasure travel, vacationing, visiting relatives. We're confident that these patrons—to whom time is obviously not a factor—will have no difficulty adjusting their plans to a three-times-per-week schedule."

NEWS

Merger scoreboard: One win, one loss

With the signing of final documents in New York March 2, Burlington Northern is officially in business—and the industry has a new "biggest railroad," in terms of mileage. But, while the long-awaited BN merger was being consummated, another merger in western territory seemed to be going to pieces as Northwest Industries terminated its exchange offer to holders of Milwaukee Road stock.

Northwest's action was not unexpected. Nor was its accompanying offer to sell its railroad properties to the Milwaukee. An ICC examiner had recommended approval of the consolidation of Milwaukee and the Northwest rail subsidiary, Chicago & North Western. But, with a sharp drop in the price of Northwest stock, the Commission indicated that new merger terms would have to be worked out—and this would have resulted in a substantial increase in the number of Northwest shares to be issued.

Northwest President Ben W. Heineman pointed out that since consummation of the exchange offer was a condition to merger, "this merger cannot now be accomplished." But, he said, termination of the offer "removes that offer as a possible obstacle to successful negotiations of a new basis for unifying the two railroads."

Milwaukee Road President Curtis E. Crippen commented only that Milwaukee was "disappointed. . . . It has been our view that the merger is desirable, and our hope that the ICC would approve the merging of the two railroads." Milwaukee, Crippen said, "will now review the entire situation in light of the outstanding ICC order and the offer of Northwest Industries to sell the assets of C&NW."

The change in status of C&NW/Milwaukee opened, for some observers, still another question: What effects may the new situation create in the Rock Island case, in which C&NW and Union Pacific have long been locked in combat before the ICC?

Next merger decision: N&W-C&O/B&O

Railroad mergers will continue to make solid—if not spectacular—progress in 1970, predicts George M. Stafford, Interstate Commerce Commission chairman.

A development that can be expected soon, Stafford told Railway Age in an interview, is a full Commission decision on an examiner's 1968 report favoring the Norfolk & Western-C&O/C&O merger. This should come "in the next month or two."

As for the Rock Island case—reopened again in mid-February—Stafford says only that he "hopes" there will be a report by the examiners (this case has two) "by early fall."

The latest Rock Island re-opening is "pro forma," says Stafford, and should not be regarded as a serious obstacle. The case was re-opened "to be sure we'll have the record complete. We think our action will speed up the final determination." Stafford acknowledges: "We thought we had the record complete before. I had been hoping we'd have the examiners' report out last year."

Another case recently re-opened by the ICC is that involving the Milwaukee and the Chicago & North Western. Because of a drop in the stock-market value of Northwest Industries, the ICC ordered the case re-opened for alteration of stock-exchange terms. Northwest on Feb. 25 replied by terminating its offer for Milwaukee and then offering to sell the C&NW railroad to Milwaukee.

ICC Chairman Stafford
"Certain mergers are necessary"

Stafford says he is not sure yet what effect the Northwest move will have on the merger proceedings. But the case could be slowed, he says, while adjustments are made.

As for Monon-Louisville & Nashville, which got a favorable examiner's report early this year, Stafford says the case will be "lucky" to get a full Commission decision in 1970.

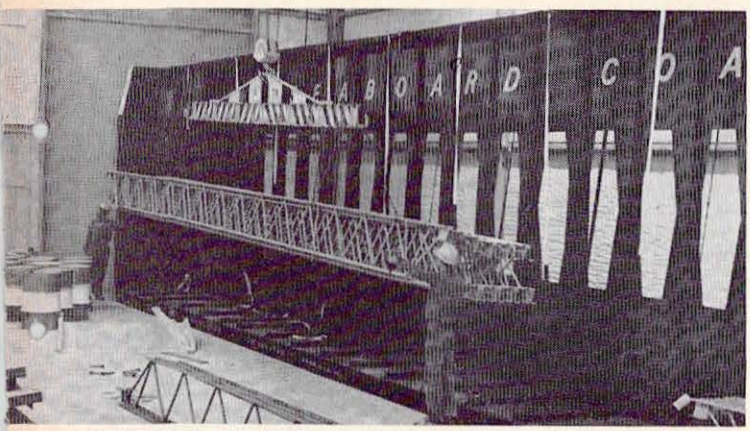
The Supreme Court verdict on Burlington Northern definitely will ease the merger process, says Stafford. "We think that this pretty well lines up the directions and considerations for the future. The decision spells out clearly guidelines that were questions in some minds." Stafford refers mainly to the Court's statement that combinations of strong carriers can be in the public interest as well as combinations of strong and weak carriers.

Stafford notes that other railroads are "going to school" on Penn Central, hoping to learn from PC what merger mistakes to avoid. Stafford still has confidence in the PC merger: "Penn Central *has* to work, it can't be undone."

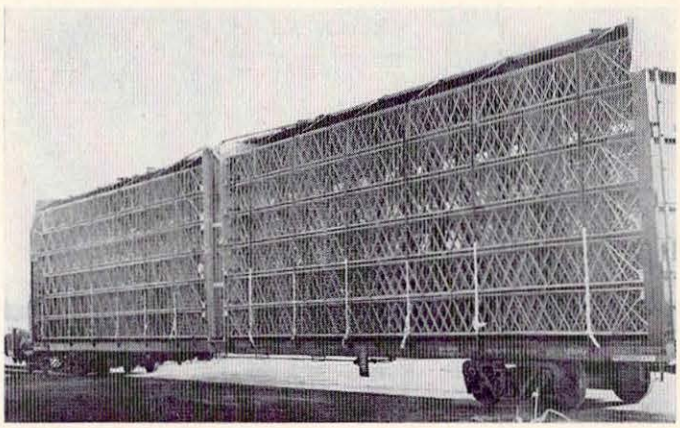
The day of the transcontinental merger is still far off, Stafford says, but he adds: "I think the railroads are going to have to merge that way in order to meet their competition."

He views settlement of the Northern Lines case as one step toward a cross-country rail company. Settlement of the Rock Island case will be another. Stafford, who will be a commissioner for three more years, doubts that he will see a transcontinental merger request filed while he is still at the ICC.

Do the railroads need mergers? Says Stafford: "I don't know that I think mergers are necessary for the *survival* of the railroads. But I do think certain mergers are perhaps necessary not only to give the kind of service needed by shippers, but also to maintain a strong competitive position."



CENTER-BEAM CAR can take purlin loads on both sides.



READY TO ROLL and loaded car provides lateral stability.

SCL gets" on the beam"—literally—with a new shipper

Seaboard Coast Line ended up "on the beam" in finding a car to meet the special needs of a new shipper, Butler Manufacturing Co., a producer of prefabricated metal buildings and building components.

Butler Manufacturing located a new plant in Laurinburg, N.C., for the production of its recently developed "Landmark" purlins—components of building roof structures. These lightweight truss members come in standard lengths of 30, 40 and 50 feet. To achieve a minimum load of 50,000 lb and qualify for a favorable rate, a Landmark shipment has to be about 8 feet wide, 15 feet high and 80 feet long. J. W. Hawthorne, assistant vice president—equipment, adds that "lateral instability of such a load presented a problem."

Several standard and special flat and gondola cars were considered before SCL's mechanical department turned to an unusual bulkhead flat car introduced in 1968 by Thrall (RA, Feb. 19, 1968, p. 40). "This center-beam car certainly offered a solution to the lateral instability," explains Hawthorne, "and when the shipper advised us that he could build his facility to accommodate this type of car, we elected to go it."

A lightweight car is achieved by having the center beam function as an above-the-deck center sill. It also functions to stabilize the loads of purlins which are loaded on both sides between the bulkheads, spaced 83 feet apart. The 30 70-ton cars are fitted with Freightmaster 15-inch-travel end-of-car cushioning units. Aeroquip webbed dacron strapping is used for tie-downs over the purlins.

World's largest car, says Westinghouse

Westinghouse Electric calls it "the world's largest rail car." It is that—if you consider, as Westinghouse does, that the lading becomes an integral part of the car. Designed for shipping generators weighing up to 600 tons, the new car has been placed in service by the Westinghouse Large Rotating Apparatus Division, East Pittsburgh, Pa. When loaded, it is 177 feet long. The car contains two sections that separate. During transit, the generator is suspended between the two halves close to the rail. After unloading, the two sections are again joined for the return trip. The car was built for Westinghouse by McDowell-Wellman Engineering Co., Cleveland, which built a similar car for Westinghouse two years ago. The first car is 159 feet long when loaded.

Centralization aids L&N operation

Louisville & Nashville's new system service center has been operating only since Feb. 1—but already, L&N says, benefits are showing up, in terms of improved operations. Essentially, the center was set up to eliminate duplication and overlapping authorities between the traffic and transportation departments, and to provide a central control for matters that for one reason or another, can't best be resolved at a local or regional level.

The consolidation program involved the traffic department's service and car utilization division; and the transportation department's car-utilization bureau, service bureau and clearance group. As reorganized, the new center functions with three sections—car-distribution and utilization, service, and clearance.

NEWS

AREA headliners: Biaggini, Williamson

Railroad men who like fact-packed conferences should love the 69th annual meeting of the American Railway Engineering Association and the 1970 annual meeting of the AAR Engineering Division. The two-and-a-half-day sessions begin Monday morning, March 16, at the Palmer House in Chicago. And in those two-and-a-half days, the program calls for 14 addresses—highlighted by Southern Pacific President B. F. Biaggini's remarks at the March 17 annual luncheon—plus two panel discussions, plus the predictable assortment of committee reports.

First order of business March 16 will be a presidential report by Harry M. Williamson, AREA president, Engineering Division chairman and SP's chief engineer-system. Following-up will be addresses by Howard Croft, president of the American Short Line Railroad Association; John A. Risendal, AAR director of safety; and Dr. Vincent J. Roggeveen, associate professor of transportation planning in Stanford University's department of civil engineering.

Later on March 16 at an Engineering Division session, comments will come from Rex R. Manion, AAR vice president-operations and maintenance; Myles B. Mitchell, director of the Office of High Speed Ground Transportation, FRA; Carl A. Love, AAR Mechanical Division chairman and Louisville & Nashville's chief mechanical officer; and Dr. William J. Harris, Jr., AAR's vice president-research and testing. Committee reports and a panel discussion on track recorder cars will round out the first day's activities.

The evening of March 16 is set aside for the annual reception sponsored by the Railway Engineering-Maintenance Suppliers Association.

The following morning's lineup includes two films, one on a Norfolk & Western line construction project and the other a Southern Pacific presentation on container-handling systems. Three addresses are also on the card—by William H. Wisely, executive director, American Society of Civil Engineers; Kenneth C. Briegel, president, American Society of Certified Engineering Technicians; and John W. Weber, senior transportation engineer, Portland Cement Association.

B. F. Biaggini

H. M. Williamson

After the annual luncheon and SP President Biaggini's remarks, the program will continue with a panel discussion on the challenges of recruiting engineers for railroad service. The March 17 schedule will close with a film on construction of the San Francisco Bay Area Rapid Transit District Trans-Bay tube.

The annual meetings come to an end at noon on March 18, after addresses by James W. Diffenderfer, assistant vice president-special services, Penn Central; V. H. Freygang, application engineer, Chesapeake & Ohio/Baltimore & Ohio; and H. O. Ireland, professor of civil engineering, University of Illinois.

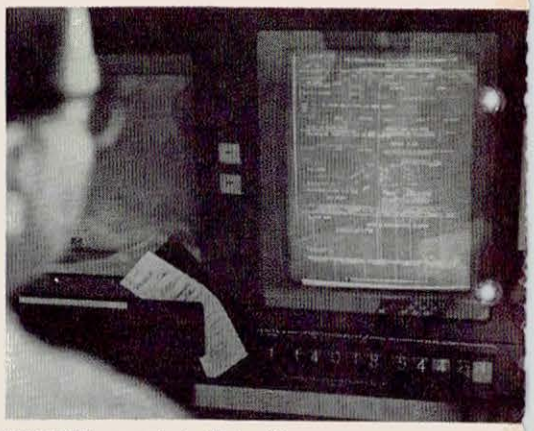
AREA/AAR officers are expecting railroad and supplier registrations for the meeting to top the 1,500 mark, based on early response.

IC tries something new in rate-making

From the railroad that pioneered Rent-A-Train—and is still working on mini-train—now comes Maxi-Rate, a box-car service proposition which Illinois Central hopes shippers will recognize as a mini-cost way of moving freight. Maxi-Rates aren't really low. They are, in fact, IC's highest box-car rates. They can cover, IC says, about 18,000 manufactured products. They provide volume movement (35,000 pounds) in standard box cars, with incentives for heavier loading and with the option of mixed loading. Generally, Maxi-Rates work out to approximately $50 per car plus 45 cents a mile. One target of IC's campaign: Shippers using, or thinking about using, private trucking.

Interchange rules: Same book, new look

Two teams of experts on the AAR's new Interchange Rules Book embark this week on an intensive campaign aimed at familiarizing key railroad and private car line personnel with the book's new and improved format. One team kicks off the campaign in Montreal for the two Canadian roads, while the other holds its first meeting in Buffalo. Other cities on this week's agenda are: Boston, New York and Alexandria, Va. for the first team, and Cleveland, St. Louis and New Orleans for the second team. A one-volume book up until this year, the new interchange rules in its new format will consist of two volumes—one containing the rules themselves, and the other, pricing information on car repairs. The new format becomes effective August 1. The books are now being printed and should be ready for purchase and general distribution very shortly, according to the AAR Mechanical Division.



WAYBILL goes into Videofile.

Videofile produces big bonus for SP

Southern Pacific may be getting more than it originally bargained for, on its $750,000 investment in an Ampex Videofile system for automated handling of waybills.

SP put the system to work in mid-1968 (RA, July 22, 1968, p. 13). The initial goal was to make incoming way-

bill data available to the revenue accounting department in a few days, instead of a few months.

That goal has been achieved. At the same time, the system has made practical a long-sought traffic-research capability which SP calls MIST—for Management Information System-Traffic.

Key to MIST is the rapid access to waybills Videofile provides. In MIST, SP is dealing with a variety of reports, some for long-range market research and others for shorter-range decision-making, including rate-making. The program, however, makes two demands of the information system: (1) The information must be accurate, and (2) for short-range reports it must be not more than a week old.

In the Videofile system, SP points out:

"The first stop for all newly received waybills is computer processing, where data is tabulated for many purposes. A certain percentage of waybills contain errors. These are corrected manually when the waybills become available in the central file. But before the Videofile system was in operation, that usually involved a three-month wait."

A program such as MIST, SP analysts note, "requires that corrections be made quickly so the new information can be re-entered into the computer for corrected tabulations. Before, we couldn't get our hands on the waybills to do that soon enough."

In the present setup, waybills move directly from computer processing to the Videofile system room, where they are entered into the master file as recordings on magnetic video tape. New waybills are available for recall in hard-copy form immediately after they are filed on the tape. In case of extreme priority, bills can be received, processed and entered all on the same day.

Requests for documents from Videofile for MIST studies are now averaging about 20,000 a month—about equal to the number of requests coming from the revenue accounting department, says the railroad.

SP expects the throughput rate to increase over the next few years. Then, MIST requests "should diminish when a fully computerized system for processing MIST data collection is installed. But monthly requests for freight-revenue purposes should reach about 50,000 by 1974."

Lines on Labor

GUS WELTY

NIXON TACKLES THE STRIKE PROBLEM

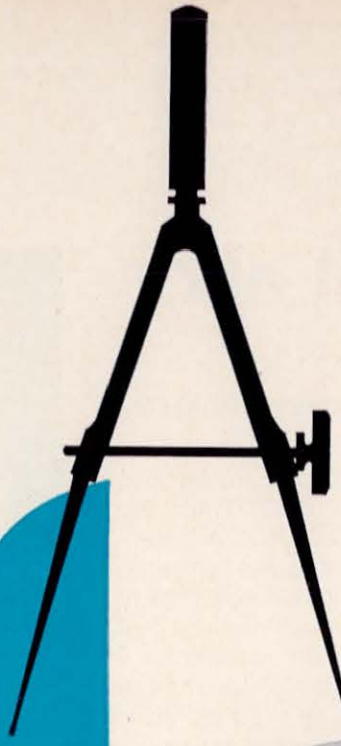
People tend to hold rather strong opinions, pro or con, about Richard Nixon. But even his worst enemies can't fault his courage. Certain of Mr. Nixon's predecessors in office have gone the agony-route, sitting and muttering about breakdowns in the lawful processes covering management/labor relations and work stoppages in essential industries. Mr. Nixon—and his labor secretary, George Shultz—are at least trying to *do* something about the problem. Mr. Nixon promised to make legislative proposals, and he has now delivered on that promise. He is getting a predictable response—to wit, criticism from both management and labor.

THE PRESIDENT BUILDS A PERSUASIVE CASE

Stripped to its bones, Mr. Nixon's proposal is reasonably simple. First, it would cover only the transportation industries. Second, it would equalize procedures by putting railroads and airlines under Taft-Hartley Act coverage. Third, it would provide the President with three new options which might be exercised after T-H stoppage-stopping provisions ran their course. Under the option plan, the President could (1) extend the T-H 80-day cooling-off period by 30 days, if a settlement seemed near; (2) order a partial operation of the transportation industry involved in the dispute; or (3) require submission of "final" management and labor offers, one of which would be chosen and applied by a neutral board. Mr. Nixon draws upon the history of management/labor disputes in transportation to buttress his case for change. He argues, with some eloquence, that his proposal "would do much to foster both freedom in collective bargaining and industrial peace."

BUT—DOES HIS PROPOSAL STAND A CHANCE?

This is an election year. Come November, the entire membership of the House of Representatives and one-third of the membership of the Senate will face the ballot-box test. Labor's influence at the polls has been somewhat downgraded over the past few years—but by no means can it be completely discounted. And so, for better or for worse, it has to be assumed that Congress will move slowly, reluctantly, gingerly—if, in fact, Congress will move at all—on any matter so directly affecting labor's interests. There's another possibility—that all concerned will come up with enough different proposals of their own that Congress can more-or-less legitimately throw up its hands and forget the whole mess for a year or two or three or forever. In the end, you admire Mr. Nixon for his daring. You reserve immediate judgment as to the wisdom of his total proposal. And, unfortunately, you admit to a certain pessimism about the chances of labor-law change.



When was the
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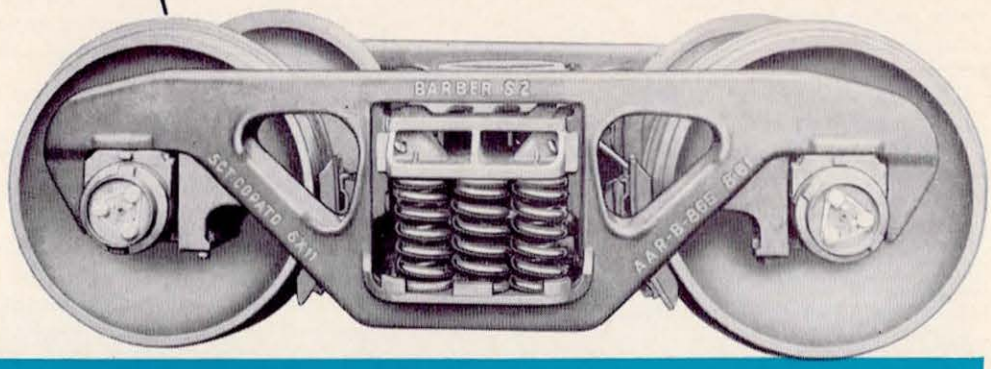

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Circle 7 on coupon page 43

TOMORROW'S RAILROADS IN ACTION:

IC looks five years ahead in M/W

Engineering officers are hard at work planning tomorrow's roadway.

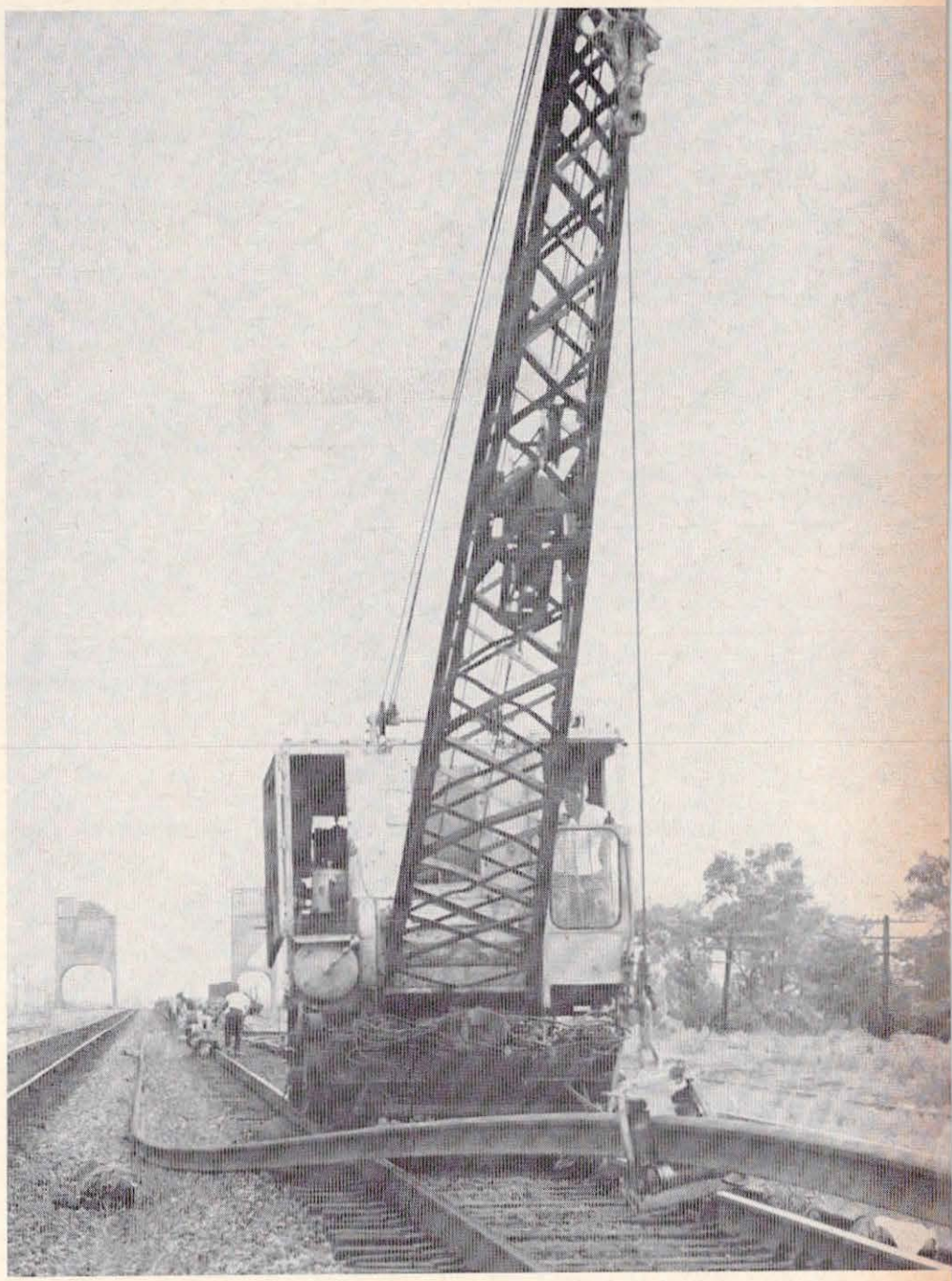
By MERWIN H. DICK, Engineering Editor

Allen Sams, vice president and chief engineer of the Illinois Central, keeps within handy reach at his desk an unusual document. It's rather thick, containing 145 pages. But is needs those pages because it details the road's projected maintenance-of-way requirements up to and including 1974.

If Sams wants to refresh his memory regarding, for example, the projected system rail program for 1973 he need only turn to page 8 where he will find not only the miles to be laid on the various divisions during the year, but also the man-hours required for installation and the estimated cost. Similar information is given for the turnouts required.

Maybe Sams then wants to see in detail what is planned in the way of rail renewals for the Chicago division in 1974. In that case he will turn to page 13. There he will find, among other jobs, that 12.0 miles of 112-lb rail is scheduled to be laid in the main track of the Amboy district between Mileposts 860 and 872, relieving 90-lb rail. At a glance he will also be able to determine the estimated man-hours required to do the job, the estimated cost, the number of turnouts required, if any, and the man-hours and dollars needed to install them. Similar information will be found for the road's other eight divisions.

Similarly, the book—entitled Maintenance of Way Projected Requirements, 1970-1974—blueprints the tie and surfacing work planned for each of the five years. It gives details of miscellaneous programs, which include buildings, signals, communications, electrical work, bridges, chemical weed control, welders and equipment operators, motor-car shop, clerical expense and water service. Included also are projections of "other expenses" which include such items as superintendence, vacation expense and snow and ice removal.



CONTINUOUS WELDED RAIL is a big item in the IC's maintenance-of-way programs, for which the 1970 budget alone adds up to a grand total of $44,700,000.

The book detailing the M/W programs for the next five years is significant not only for the information it contains but also because of the fact that its preparation reflects some fundamental changes in thinking on the IC in the field of M/W management.

● **"Playing catch-up."** In explaining the reasoning behind the decision to put M/W planning on a long-range basis, Sams says, "We are playing catch-up." By this statement he means, for one thing, that track-maintenance programs on the IC in recent years, in common with those on many other roads, have fallen somewhat below actual requirements, necessitating that steps be taken to build some strength back into the properties.

But there is much more to the reasoning than that. Sams and his associates are convinced that future developments will require a higher standard of track maintenance than has prevailed in the

past. Higher speeds and heavier cars are among these developments. So is the increased traffic that is expected in coming years. "Changes in traffic patterns are also a factor," says J. R. Miller, IC's engineer maintenance of way, "resulting in some lines carrying a heavier volume of traffic than in the past."

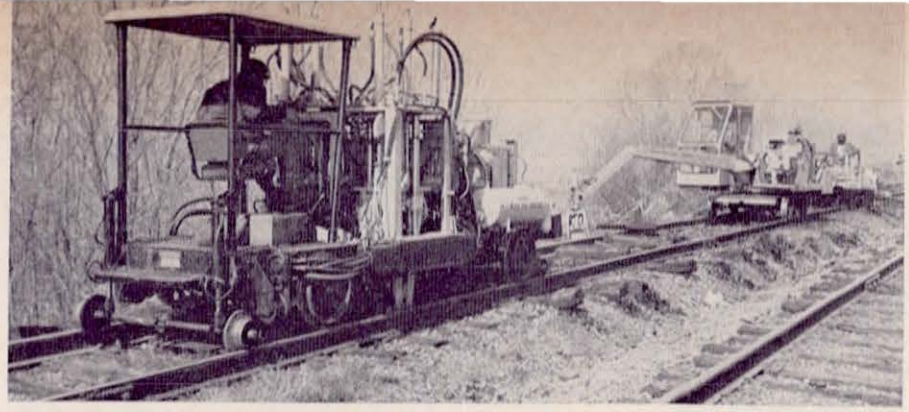
● **Need seen for bigger programs.** In view of these considerations IC engineers are convinced that coming years will require bigger M/W programs, especially those having to do with track maintenance. It will be their responsibility to execute these programs with maximum efficiency and economy, and they are convinced that this can be done best if they can project their thinking at least several years into the future. Accordingly, planning ahead on a five-year basis was started, with the understanding that budgets based on the long-range plan will be submitted annually for approval.

Under the long-range plan the M/W budget for 1970 shows a substantial increase over 1969. The figure for 1969 was $36,400,000 and that for 1970 is $44,700,000, both figures excluding depreciation and retirements. In arriving at all dollar figures in the program a factor has been added to take care of the inflation that is occurring in wages and in prices of materials.

● **When cut-back comes.** While IC engineers are hopeful that they will be able to budget annually as set forth in the long-range plan, they understand that this may not always be possible. What they plan to do in event there is a cutback in any year in a particular area is to make adjustments in future years to compensate for the reduction.

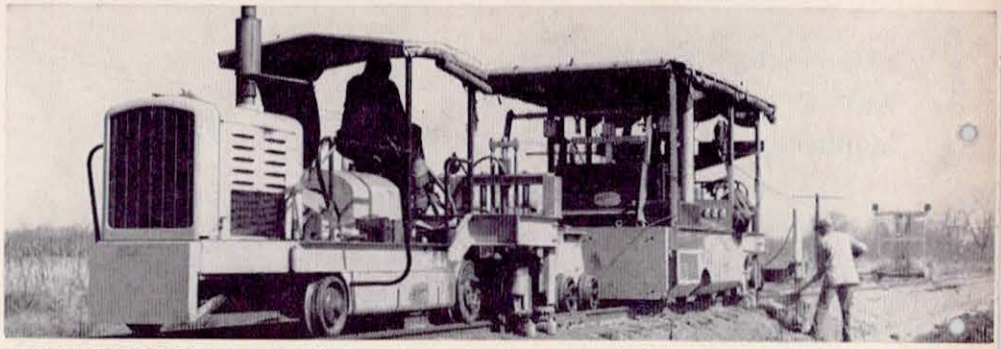
They have, in fact, already encountered such a situation. The projected requirements for rail-relay work in 1970, as set forth in the five-year plan, called for 200 miles of new rail and 297 miles of secondhand rail. In the approved budget these quantities were revised downward, with the result that the program for this year now calls for 110 miles of new rail and 170 miles of secondhand rail. Despite the cutback these quantities are still far above the amounts laid in 1969 when 70 miles of new rail and 105 miles of secondhand rail were laid. The plan is now to spread over the remaining years of the five-year plan the amount that the rail-relay program was reduced below this year's requirements.

Other parts of the plan for 1970 have not been disturbed. This includes a tie-renewal program of 1,000,000 ties, which compares with the 625,000 new ties inserted for renewal purposes in 1969. Track to be surfaced in 1970 is projected at about 1,650 miles, which compares with about 1,200 miles surfaced in 1969 and 1,150 in 1968.



TIE RENEWALS are trending upward on the IC. To help carry out the work with maximum efficiency, large amounts of new machinery will be added to the present fleet.

MORE AND MORE MACHINES ON THE WAY



TRACK SURFACING is also highly mechanized on the IC. But more machines will be bought to handle the road's projected maintenance-of-way requirements.

● **Sharpening the organization.** As an integral phase of their long-range planning, IC engineers are sharpening up their entire organization with two objectives in mind. One is to achieve the capacity necessary to carry out the enlarged programs, and the other is to introduce the maximum efficiency into their operations. The first of these is to be realized at least partly by adding substantial amounts of new machinery to the present fleet. In recent years IC machinery purchases for M/W works have been ranging between $750,000 and $1,000,000 annually. The budget for 1970 calls for the expenditure of about $1,760,000 for this purpose. Says Miller: "We'll need to maintain our machinery purchases at about the same high level until we get all the high-production machinery we need."

Several steps are being taken to increase the efficiency of the maintenance forces through better utilization of machinery, says Sams. One is to get more out of the machinery fleet by scheduling the equipment on a system basis, particularly tie-renewal, surfacing and rail-laying equipment. Previously, out-of-face track work has been scheduled at the division level, but now this function is to be centralized at the headquarters' office in Chicago.

Centralized scheduling of major track work for the system as a whole, points out Miller, is facilitated by the north-south geographical location of the road. "In the past," he says, "the practice, when the freeze-up came in the fall, was to ship all tamping equipment on the north end of the road to the southern territories whether it was needed or not. The result was that the equipment would sometimes be idle. Now we ship south only the equipment needed to perform scheduled work and send the remainder to the work-equipment repair shop."

● **Training machine operators.** Better care of machinery through preventive maintenance is another step being taken to put the use of equipment on a more efficient basis, says Sams. Like many other roads the IC is hampered by seniority rules from keeping operators with machines when the units are moved from one division to another, even sometimes from one track supervisor's territory to that of another. As a means of helping to overcome this handicap the IC has launched a program to provide better training.

A newly developed "Work Equipment Maintenance Manual" is part of this effort. Designed to be carried by all machinery operators and machanics this manual contains a list of things to be checked at specified intervals on each machine commonly used by the M/W forces, the checklist of items being divided between operators' duties and mechanics' duties.

● **Planning is simplified.** The practice of projecting M/W programs on

a long-range basis is of distinct help in all areas of planning, explained Sams. The planning for any given year is simplified, he said, if the planners can see what is contemplated for the next several years and can foresee how the present year ties into those plans. Long-range planning of tie renewals is of particular help to the purchasing department in arranging for future tie requirements, he added.

The ability to plan rail butt-welding operations on a long-range basis has had a beneficial effect on the operation of the raod's butt-welding plant at Centralia, Ill., Sams and Miller explained. Previously, this plant was being operated 10 hours a day, 6 days a week, resulting in considerable overtime expense. Now that the road has projected its rail requirements into the future on an expanded basis the operation of the plant has been changed to a two-shift operation, five days a week, eliminating the overtime. Another advantage of the new arrangement, they say, is that there has been an increase in the production rate. This is attributed to the fact that the workers don't get as fatigued as they did when they were working the longer hours.

● **How plan was compiled.** Sams explains that, in compiling the five-year plan, the track supervisors were asked to provide estimates of the tie-renewal, surfacing and rail-relay work required on their territories for each of the next five years. These estimates, giving the amount and location of the work, were turned over to the division engineer who, after making his own adjustments, passed them on to the headquarters office in Chicago where the quantities were translated into man-hours and dollars.

The intention, about the middle of each year, is to compile a budget for the following year based on the long-range program. In doing so, adjustments will be made depending on the extent, if any, to which the work done in the present year will not measure up to that called for in the program. Also, since the planners will be one year closer to each remaining year in the program they will perhaps see some other changes that should be made in the remaining years. At the same time programs for another year will be added on to the long-range plan.

In addition to the long-range maintenance program, the engineering department has developed a five-year program for capital improvements, Sams said. The mechanical department has also developed a five-year plan, and the traffic department is working on long-range projections. All this is aimed eventually at the possibility of developing tentative budgets for five-year periods, he said. ■

TOMORROW'S RAILROADS IN ACTION:

Pollution: What can railroads do about it?

Although they are not the largest offenders, railroads are taking remedial measures that may cost millions of dollars.

By R. E. DOVE, Associate Editor

How do railroads figure in the total environmental pollution problem? What about their power plants—the burning of car dunnage and old ties—the smoke, fumes and noise of diesel locomotives—and the contamination of streams and undergrown water supplies by their waste waters? These questions pinpoint some of the areas of vulnerability. Railroads are very much involved—and they will become more so.

So far, railroads have been clearing up pollution problems at points where they have been compelled to do so by municipalities and states. But some roads are now taking the initiative—surveying their own properties to learn the extent of the problem and evaluating the costs involved to eliminate it. They find that large expenditures will be necessary.

It is said that man can live from a month to six weeks without food, from four to six days without water, and from three to six minutes without air. This being so, the clarification of the atmosphere is the first order of business. But this is not the main direction toward which the railroads are directing their energies, and for good reason.

Railroads are not the big contributors to air pollution. This dubious honor belongs to the automobiles, buses and trucks and also to the coal-burning electric-power generating plants. Automobile manufacturers are working on this problem and promise to have an engine in two or three years that will use lead-free gasoline and emit an exhaust of acceptable standards. Power companies, too, are working on their problem and are buying coal with a lower sulphur content to reduce sulphur-dioxide fumes and are installing precipitators in their stacks to eliminate the spewing of ashes and other particulates.

● **Railroads and air pollution.** But railroads do contribute to air contamination in several ways. Facilities at their larger terminals include power plants. It is significant that more and more railroad capital budgets contain items for the elimination of coal-fired boilers and the installation of automatically operated oil or gas-fired boilers to eliminate the release of unburned particles. Another measure being employed is the consolidation of shops and installation of smaller gas- or oil-fired automatic boilers for heating.

One source of air contamination by railroads is the long-standing practice of disposing of old crossties by burning. This is the easiest and most economical method of disposal, but it does produce smoke and ashes. Case in point: A woman living near a railroad showed her councilman the brown stains on her wash from the burning by trackmen of creosote-treated ties. The end result was that the town prohibited further burning of ties within the city limits. More and more towns and states are likewise prohibiting this practice, so that trackmen have to bury the ties or load and haul them to some place where they can be burned.

Paralleling this is the railroad's problem of disposing of car dunnage and debris. Since cars haul all sorts of products, this waste material will include flour, brick dust, food products from damaged packages, wood pallets, steel bands, nails, plywood, cardboard cartons, paper-type grain doors and similar items. The usual practice was to dump the waste material along the bank of an outside yard track and burn it. But again, burning is being outlawed. Also, some of the material does not burn and contributes to infestation by rodents and, through drainage, to the pollution of streams. This necessitates the building of incinerators of approved design that will insure the complete combustion of the material and control the emission of smoke, or the hiring of scavenger firms to haul it away. And the latter practice is being discouraged by the ever-increasing rates.

Still another area of railroad air pollution is from the exhausts of diesel locomotives. It is railroad practice to let the engines of these units run con-

tinuously when not in use so as to avoid freezing of the cooling water and the leaks incident to heating and cooling. But this practice is in jeopardy. One large city already has passed an ordinance limiting the emission of smoke and fumes from diesel engines. In another city, a townsman objected to the noise at night from a parked diesel unit—with the result that this practice was prohibited. These are isolated instances, but more and more adverse attention *is* being directed toward diesel engine exhaust. The use of anti-freeze for a 300-gallon coolant water tank is not economical so electric block heaters must be used.

• **Water is major problem.** Most of the recent anti-pollution efforts by railroads are being directed toward cleaning up waste waters. A man who is close to this problem is J. J. Dwyer, chairman of the AREA Committee on Environmental Engineering, and chemical engineering for the C&O/B&O at Huntington, W. Va.

Dwyer points out that purifying waste waters to an acceptable standard is complex because of the varied uses made of water. Few railroads, he says, are aware of all the sources of water contamination on their properties, and some sewer lines do not show on railroad maps. Yet, he adds, they may be found to be discharging human and/or oily wastes as well as storm water into streams.

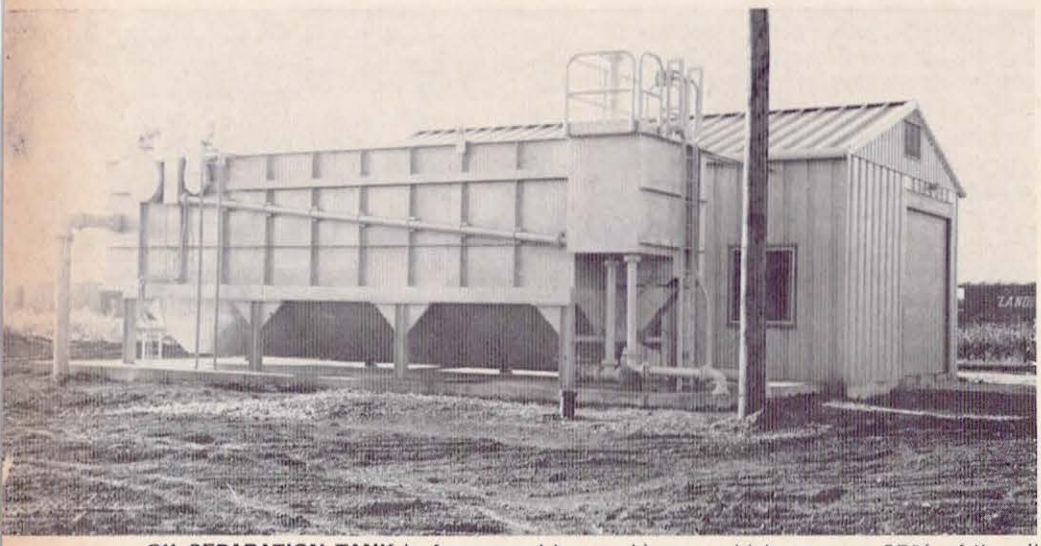
Water used for locomotive cleaning contains oily emulsions produced by detergents which, Dwyer says, don't separate by gravity with the result that chemicals must be used to remove them. This is a new technology, he explains, that is still being developed. Detergent manufacturers are now producing a non-foam cleaner.

But this improvement, Dwyer adds, creates another problem because these cleaners contain phosphates that don't disintegrate but still have to be removed.

In addition, says Dwyer, the constantly developing new chemical cleaning compounds being sold to the railroads are creating more and more problems with pollution control. Whereas formerly a simple gravity separator would often do an acceptable job of separating oil from the water, now extensive plants with sophisticated equipment and controls are often required to accurately proportion acids, coagulants, coagulant aids (polyelectrolytes), alkalis, etc. Acidification, coagulation, air flotation, sedimentation and neutralization are some of the processes which may be required to separate contaminants from the effluents produced.

Such treating plants are not cheap, Dwyer points out. Costs may run from about $100,000 for the upgrading of an inadequate existing plant up to the $350,000 spent by the North Western for its recently built plant in Chicago. An average-size treating plant could run about $150,000. It makes a difference, Dwyer says, whether the effluent from the railroad treating plant is discharged into a city sewer, later undergoing a secondary treatment, or directly into a stream. In the latter case, the treatment must be more sophisticated to prevent damage to fish and wildlife.

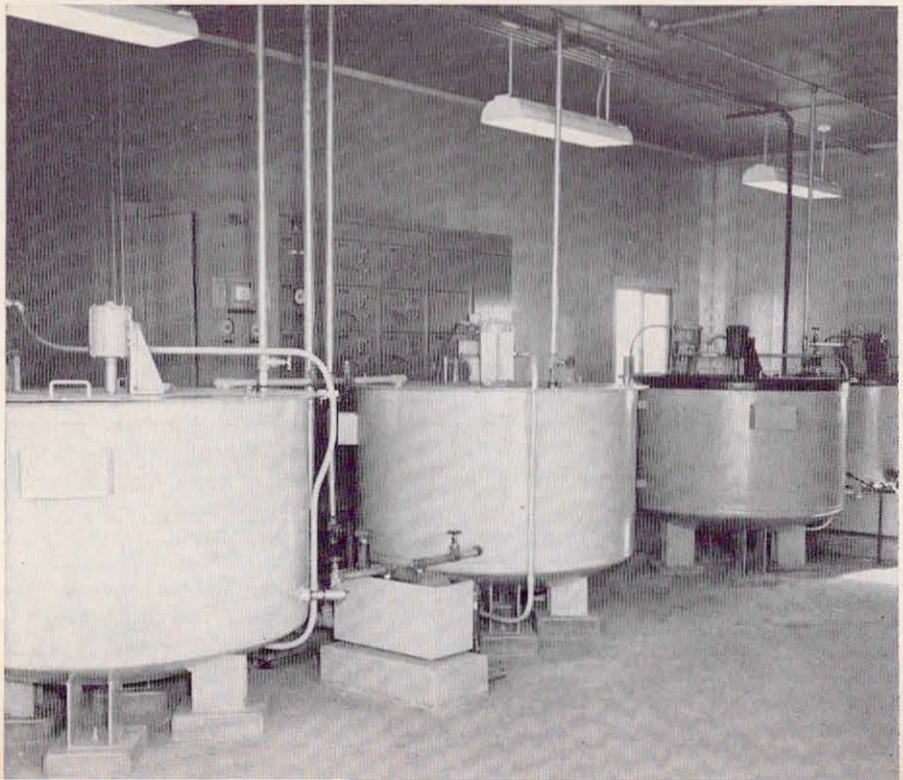
Another man intimately associated with railroad pollution problems is C. F. Muelder. He is vice chairman of the AREA Committee on Environmental Engineering and assistant to the building engineer of the Burlington. Muelder also is a member of the Water Resources Board of the Chicago Association of Commerce, where he has represented the railroads in the Chicago area. By sitting in on the meetings of this Board, he has been able to effectively present the railroads' problems in fighting pollution. Thus the railroads in that area have a voice in getting at the root of the entire city problem and feasibly taking care of them with the least hardship effect on the railroads.



OIL-SEPARATION TANK in foreground has a skimmer which removes 95% of the oil from the surface of polluted water. Coagulated oil sinks to bottom and is removed.

ONE WAY TO CLEAR THE WATERS

CHEMICALS IN TANKS remove oily emulsions produced by washing detergents. Chemical solutions are dispensed to the outdoor oil-separation tank.



● **Wants industry staff.** "The subject of air, water and land pollution and abatement is vital to the railroad industry—not only as an industry itself but also because it serves other industries that are customers of the railroads," says Muelder. "The field is so broad and the scope so large that it is difficult for any one existing railroad organization to keep abreast of the fast-moving program of pollution control. I think that an environmental staff within the scope of the AAR could serve many useful purposes for all railroads as well as presenting an industry voice along with other industries to insure proper perspective and a realistic approach to the problem."

● **Some roads lag.** Muelder regrets that some roads are not taking the initiative in clearing up their own pollution. They are doing only what they are forced to do, he adds. He says these roads are going to find that they are very much involved in the pollution-control problems, like it or not. Right now, he notes, pollution is a political question and railroads had better get busy if they want to have a say about pollution-control regulations.

"The days of forming a 'gob pile' from dunnage material picked up and loaded by a clamshell from the banks of car-cleaning tracks and dumped in an outlying area are numbered." Muelder believes. "Already the State of Illinois has a regulation against dumping debris unless it is part of a state-approved land-fill operation. Other states are making rules in this same direction. This means that the dump-site itself must be approved for having the right drainage and sub-soil strata to prevent underground water pollution. I know of one instance where a landfill operation had to be abandoned because the water from a farmer's well one and a half miles away was showing contamination."

● **Industrial parks.** "Railroads will find themselves very much involved as they try to attract industries to their lines by providing industrial areas," Muelder states. "These sites will have to provide plenty of good water as well as an adequate sewer system before industry will settle there."

Where possible, Muelder points out, railroads should provide a primary treatment to their waste waters to remove the floatables and solids, then turn this acceptable water into city sewers. Municipalities can do a better job of secondary and tertiary treatment than railroads can, he says. This also relieves the railroads of having to construct more sophisticated plants of their own.

Both Dwyer and Muelder feel that railroads should survey their properties to size up the problem and then take measures voluntarily to correct bad situations. Compulsion can mar public relations, they say. The construction of treating plants will be expensive, they add, but other industries are setting a pattern of spending from 3 to 5% of their capital expenditures for clearing up their pollution. Dwyer believes that railroads may have to allocate up to 5% of their capital expenditures on pollution control. Muelder goes much farther. He believes that, for the next decade, railroads will need to allocate 5 to 10% of major project costs to pollution control and abatement. This will run into millions of dollars for the industry. ■

Santa Fe's John Reed discusses the pollution problem

What does "environmental control" mean to a railroad? What can a railroad do, to get in step with the times and protect both its environment and itself? This is how Santa Fe President John S. Reed looks at those questions:

"Environmental-protection is a problem facing all business. Railroads, in particular, have wrestled with it for years. If you'll recall, in dieselization the change-over from steam to diesel in switching operations got a top priority—partly because of the urban air-pollution problem.

"On Santa Fe, we've long tried to recognize our responsibilities, so far as the public is concerned. But last year, on July 1, 1969, we formalized this when we created a special system committee on environmental control—headed by an assistant to the vice president-operations and with other committee members primarily from the mechanical, traffic and public relations departments.

"We wanted this committee to do two things—first, to examine our existing operations in the context of our 'good citizenship responsibility', and second, to look at proposed projects to make sure they conform with what is right in this area.

"We want to be able to anticipate problems and to take an affirmative kind of action—not just to react when somebody or some public body thinks we're doing something wrong.

"But, no matter what you do, any big company can become a target. For example, we had what we thought was a beautiful project to develop tideland properties in the east bay area of San Francisco Bay. The place looks like a junkyard now. But our project got involved with a 'save the Bay' campaign. We became a target, and I don't know where that situation will wind up.

"Even beyond this, railroads are getting to the point where their mere existence in some cities is regarded as a kind of 'visual pollution.'

"So far, our committee has looked into a number of things. We've done studies on the amounts of pollutants emitted by the diesel locomotive and diesel and gasoline-powered trucks. We've found that the locomotive is responsible for much less pollution, particulary on a basis of pollutant-emission per unit of work performed. Railway Age, I believe, published figures on these studies—although the railroad that made them was not identified.

"The locomotive still is our most visible source of pollution—and some improvements will have to be made. For example, I'm thinking of our having to idle diesels rather than shutting them down when not in active use. The operating instructions covering the majority of our diesels require that the engine be kept idling, because if you shut down the engine, leaks may well develop in the cooling system. Surely this doesn't have to be. I am also thinking of the right-of-way fire problem resulting from sparks from the diesel exhaust. Something has to be done to improve the combustion process in the diesel engine. They say it can be done with a diesel bus engine—I don't know why it can't be with a railroad diesel.

"Is electrification the answer I have my doubts, because I am afraid you may just be transferring the pollution from wherever the diesel prime mover is operating to the point where the electric power is being generated for an electrified system. I haven't figured it out, but it seems logical to assume that you may produce as much pollution from a fossil-fuel generating plant as you do from a somewhat less efficient self-contained prime mover. Maybe more, considering powerline losses in an electrification installation."

AIRPORT ACCESS

Is there a better way

By DAVID THALER, Contributing Editor

United Flight No. 220 out of Newark lands at Cleveland's Hopkins Field at 10:38 a.m. The passengers trudge down the airport's new wing, into the terminal, and then begin what often is the most difficult part of a journey—getting from airport to final destination.

But in Cleveland the problem of getting to and from the airport has been made simple. A small group of Flight 220's passengers walk out of the terminal and into the Cleveland Transit System's train station. Twenty minutes later they are in downtown Cleveland.

"I was advised to take the rapid," says a White Motor Co. sales executive. "It's more convenient."

Comments another businessman: "I used to take a cab to Shaker Heights. It cost $7.50. This way it will cost me 80 cents. It's the company's money, but why waste it? New York needs a rapid to the airport. It's terrific."

New York is going to get a rapid transit line to Kennedy Airport. Philadelphia is far advanced with its own plan for airport trains. New Jersey may get rapid transit service to Newark Airport. In Chicago, Public Works Commissioner Milton Pikarsky says, "There is no doubt in my mind that we're going to build a rapid line to O'Hare." The new metro being built in Washington D.C. will have an extension to National Airport, and may have a line running to Dulles, the airport in the wilderness. Numerous other cities are eyeing midtown-to-airport rapids.

Presently, however, only two cities have really solved the problem of airport access—Cleveland and Brussels. Brussels has an 8.9-mile rail link which takes passengers from the central business district to the airport in 16 minutes. In operation for 15 years, the service enable passengers to check their baggage at a downtown terminal, step on an escalator leading to the Belgian National Railways train, and ride to the airport without worrying about traffic delays.

London has a rail link between the downtown area and the city's secondary airport, Gatwick. Tokyo has a monorail between downtown and airport—but wishes it didn't. Among other problems, the monorail's downtown terminus is inaccessible by public transportation from the main business district.

• **Can DOT help?** Secretary of Transportation John Volpe says, "A number of cities have invited us to help them study their airport access problem. We'll be getting together with them to see how we can help." Carlos Villarreal, who heads DOT's Urban Mass Transportation Administration, hints that the TACV (tracked air-cushion vehicle) concept may get its first U.S. test hauling passengers to and from airports.

Help is needed. Airline passenger business is increasing at a rate healthy enough to choke urban highways. In 1968, 146 million people boarded airplanes, according to the Air Transport Association. ATA predicts that 266 million people will be emplaning during 1975. By 1985, the figure will rise to 669 million.

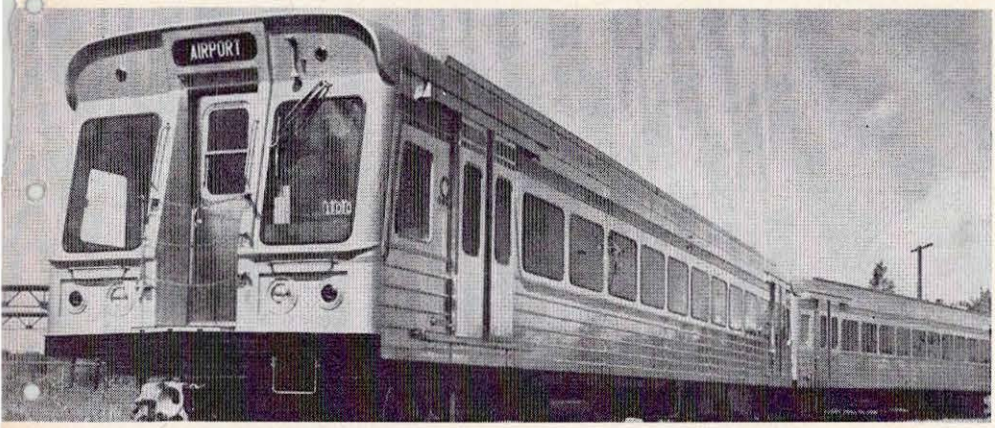
Several factors make these predictions ominous. The peak hours of airline departures and arrivals coincide with the peak hours of automobile traffic—7 to 9 a.m. and 5 to 7 p.m. —compounding an already serious highway congestion problem. And for many airline passengers, there are one or more persons to greet them on arrival or accompany them to bid farewell. With 10,000 more autos turned loose on the nation's highways every year, airport strangulation is a real possibility.

• **The crisis is here.** It's not necessary to look to the future for a crisis. On Thanksgiving weekend 1968, auto traffic at Chicago's O'Hare Field simulated the nightmare in which the last auto slips onto a highway and locks in place every car in a metropolitan area, bumper to bumper, with no room to move. The term used by city officials is disarming, a "backup." In Chicago, the backup extended out of the airport and several miles onto Kennedy Expressway. Pittsburgh experienced the phenomenon last year. New York experiences something like it almost every Friday.

"Anyone with a 6 p.m. plane out of Kennedy on a Friday would be well advised to leave the city at 3 p.m.," says United Airlines vice president Herb Godfrey. "There is a two- or three-hour lead time involved in getting a plane at JFK on any Friday afternoon."

With the problem already acute and assured of becoming worse, airlines might be expected to be concerned. They are, but not enough to assume responsibility for solving the problem.

to get to the airport?



CLEVELAND SAYS YES

The only city in the United States to provide a rail link between central business district and airport, Cleveland has found airline passengers willing to leave their automobiles at home and use the rapid. Nearly 4,000 a day use the service.

"No one wants the responsibility," says Robert Coultas, executive vice president of the Institute of Rapid Transit. "The airlines take the position that their responsibility for the passenger ends at the terminal door. The transit people don't want the responsibility, because it involves peak-and-valley traffic. Airport authorities have all they can do to handle the traffic within the gates of the airport. And frequently, airport facilities are outside a city's limit, so the city is limited in what it can do."

● **Trains vs. buses.** If there is no agreement on who should take the lead in solving the problem, there is a growing consensus on *how* the problem should be solved.

"I think the answer is obvious," says Chicago's Pikarsky. "Highways can carry 3,000 people per lane every hour. Buses running in an exclusive lane can carry 30,000 people per hour. A train can carry 40,000 people and up per hour. There's not much doubt about which mode is the most efficient people-mover."

The president of a major airline came to the same conclusion without the benefit of statistics. Visiting Cleveland to make a speech, he planned to ride the rapid to Hopkins Field. But at the last minute, with time running short, he decided to make the trip by car. Caught in rush-hour traffic, he saw the rapid pass his automobile en route to the airport. He missed his plane.

● **An Ohio solution.** Cleveland has its airport access problem solved for some time to come. Hopkins is used by an estimated 14,000 people every day. The rapid presently has the capacity to move 7,600 people an hour.

"That," says Clarence Generette, chief engineer of the Cleveland Transit System, "is the equivalent of 70 miles of automobile—and it's only 11 miles from downtown to the airport."

When the "Airporter" service was proposed in 1959, four years after the initial rapid system was built, Generette submitted a report to the CTS board which projected daily traffic of 3,300 passengers, enough to pay operating costs (but not the capital costs). In 1969, the first full year of operation, the Airporters carried an estimated 3,800 people daily to and from Hopkins. In fact, the 2% increase in traffic recorded by CTS system-wide during 1969 would not have occurred had it not been for the airport extension. More than 1.6 million people passed through the turnstiles at the three new stations serviced by the extension; the total increase in traffic reported by CTS was 322,484.

The apparent success of the Airporter comes in the face of a severe handicap. The downtown station, Union Terminal, is at the far western end of Cleveland's business district. There is no subway connecting the station with other points in the business district.

Still, the alternative methods of getting to the airport are losing favor, and CTS expects Airporter traffic to increase. Until now, the highway system has held down Airporter traffic, CTS officials feel. "Interstate 71, which was completed recently, is competitive with the rapid," says Generette, "but it's jamming up and we expect to get some passengers as a result of the highway congestion."

I-71 feeds into Snow Road, which leads to Hopkins Field. Two grade crossings traverse Snow Road, and it is not unusual for travelers dashing to the airport to find themselves waiting for freight trains.

The combination of highway congestion and fast train service to Hopkins has had an effect on the limousine service shuttling between Hopkins and the city. The Yellow Cab Co., which operates the buses, has reportedly experienced a decline in traffic. It has increased headway from 15 to 20 minutes and is rumored to be offering three buses for sale.

"The bus can make the trip in 25 minutes under perfect conditions," says Generette, "but in rush hour it takes much longer. The expressway is jammed all the way to the airport."

The Airporter operates on 10-minute headway and could, says Generette, reduce that to 2½ minutes. The 20 new cars ordered in conjunction with inauguration of the new service each have a capacity of 90 passengers (compared with a 52-passenger capacity for the old cars). An additional 10 cars have been ordered from Pullman-Standard. (They will have anti-skid brakes to prevent a flat-wheel problem encountered with the other cars, Generette says.)

● **Visitors are impressed.** Cleveland

POPULARITY OF AIRPORT SERVICE in Cleveland has forced transit officials to supplement 20 new airporter cars with older cars.

has been a favorite visiting place for politicians, airline officials, and rapid transit experts. They come to see the only rapid transit line servicing a major airport in the United States, and they leave impressed not so much with the state of the art in Cleveland as with the possibilities implied for other cities.

Says Chicago's Pikarsky: "It is an attempt to serve an airport in a minimal way. You get to the airport, and you have to walk a long way from the gate to the exit. Then you have to walk outside the terminal, across the street, down stairs and into an unattractive train station. But I use the rapid when I go to Cleveland. It's dependable. And I see others using it, undoubtedly for the same reason."

For Pikarsky, the lesson for Chicago is obvious. Chicago needs a rapid line to O'Hare, and when the city builds one, it can be assured of heavy patronage.

• **Chicago tries rail-plus-bus.** The city already has an indication of what it can expect from rapid transit airport service. The Chicago Transit Authority recently opened an exten- 25- to 45-minute run, costs $1.75.
strip of the Kennedy Expressway, the main highway linking the central business district and O'Hare. The line ends about five miles from O'Hare, and last month CTA inaugurated a bus service between O'Hare and the Jefferson Park terminus of the rapid.

"Some reporters conducted a race between the CTA and the limousine service," says Pikarsky. "The limousine won by four minutes. But we had slow-orders on the trains, because we had just begun the service, and there was a 25-minute wait for the bus connection. There was also the matter of cost—$2 for the limousine, 60 cents for the CTA." The city will ask for a re-match.

Chicago is not going to settle for a rail-bus combination. The city wants rail service directly to—and around—O'Hare. "We want it yesterday," says Pikarsky, "but it probably will be several years before we have it."

Philadelphia plans to inaugurate train service between the central business district and Philadelphia International Airport during 1972.

The city has authorized a $10 million bond issue to cover most of the construction costs and has appropriated $83,000 as its share of engineering costs. The state has matched the engineering funds, and the city is seeking a grant from the Department of Transportation to supplement them.

The Philadelphia link would originate at the existing Penn Center station beneath the Sheraton Hotel, where the airlines have ticket offices. It would utilize the existing Penn Central commuter tracks to the 30th Street station, then run on the New York-Washington mainline to the PC 60th Street branch, where it would jog over to the Reading's Chester branch. After three miles on the Reading, it would run on one mile of new track to the airport. Total running time: 16 minutes from Penn Center, 13 minutes from the 30th Street Station.

The city proposes to charge $1.25 for the ride; the limousine service, a sion of the rapid along the median
One-car trains will operate on 25-minute headway. Four new cars, designed to carry both passengers and baggage, will be purchased. Passengers will be able to check their baggage at Penn Center. Luggage will be hampered and the hampers fork-lifted into the baggage section of the car.

Philadelphia's airport services approximately 25,000 passengers a day, on busy days; 6 million passengers a year. The train service is expected to handle 3,000 passengers a day the first year it is in operation and experience a 12% annual growth rate.

Chicago has been working on the airport access project for several years. It has adequate incentive. O'Hare is used by an estimated 32 million people a year. It's designed to handle 60 million and can probably handle an overload up to 80 million. It has been estimated that capacity will be reached by 1985, and already there is pressure from the airlines to expand the facility.

Studies are being conducted as a prelude to selecting a site for a third major airport. The ideal site for the third airport, says Pikarsky, would be State and Madison, the geographic center of the Loop, but since that location is not feasible, the city is hoping that construction of an airport in Lake Michigan will prove possible. Any other site would have to be located far beyond city limits and probably would not relieve the pressure on O'Hare.

"If we used the lake site," says Pikarsky, "we think 50% of the city's air passengers would use it. But if we went to a land site, we estimate that 78% of our air passengers would go to O'Hare."

• **Railroads cool to idea.** With the

Kennedy Expressway already in constant danger of overload ("We have to take extraordinary measures to avoid backups on holidays," Pikarsky says), and traffic at O'Hare continuing to increase, the city is more than concerned. It has approached several railroads with proposals to utilize existing right-of-way for most of the run between the Loop and O'Hare, and has received responses which Pikarsky characterizes as "pretty negative and short-sighted."

In November 1968, a special committee formed to study the possibilities of making a rail connection to O'Hare submitted a report which until recently has not been discussed publicly. The report examined 11 basic rail routes, all utilizing existing right-of-way for the major segment. Of the 11, five routes would use the Chicago & North Western Depot, two would use Chicago's Union Station, three would extend the CTA lines, and one would use the Illinois Central lakefront line paralleling Michigan Avenue, with the St. Charles Airline as an east-west connector. The report deemed these routes suitable for further consideration:

—A line from the northern concourse of Union Station over Milwaukee tracks to Franklin Park, where Soo Line tracks would be used to O'Hare. The Soo rejected the route, but the report said it would be "one of the least expensive to construct" and should be considered a "viable alternative among the 11 basic proposed routes."

—A line utilizing the Milwaukee-Bensenville yard line to the Des Plaines cutoff (a multiple-track, freight-only right-of-way to C&NW's Proviso yard) and then over airport spur tracks due north into the southern edge of the airport complex.

—Extension of the CTA's Kennedy Expressway median strip rapid to O'Hare. This is the route which probably will be used, but it will be a 35-minute trip, the same time required for a trip by auto or limousine, and the committee felt that it "may not be competitive during non-rush hours."

—The CTA Lake Street line connecting first with the proposed First Avenue Expressway and then with the Kennedy Expressway line at Norwood Road. Because the First Avenue Expressway won't be completed until after 1975, this route is viewed strictly as a long-term solution.

—The C&NW Northwest line to Jefferson Park, where it would connect with the CTA. This route would require 25 to 28 minutes between the Loop and O'Hare and it appeals to Chicago officials.

The city has only the power of persuasion to use in generating interest among railroads in the airport access problem. Pikarsky is trying to convince several roads that the actual transportation of airline passengers should be viewed as a "loss leader," with auxiliary facilities seen as very profitable. He has in mind particularly air rights along the route that is finally selected.

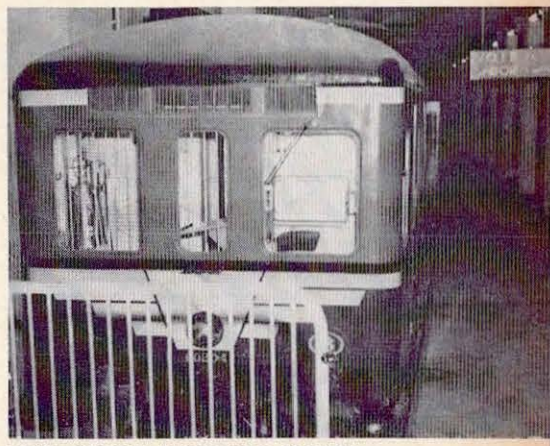
● **C&NW says 'maybe'.** The only railroad response which is viewed by city officials as positive is one made by the C&NW, which wants a metropolitan transportation authority, established. The authority, according to Pikarsky's version of the proposal, would resolve the basic conflict between privately operated commuter railroad and public transportation facilities. C&NW takes the position that publicly financed improvements intrude on railroad facilities and erode the position of commuter roads. The authority would purchase the railroad commuter equipment and either operate the commuter service or contract with the railroads to operate it. Such an arrangement would permit the authority to select the best and most economical rail route to O'Hare.

Under discussion

The city has not rejected the North Western's idea. "In theory," says Pikarksy, "we agree that such an authority is desirable." The proposal has been under discussion for several months, and Pikarsky says, "It undoubtedly will be taken up in the state legislature," which would have to pass the authorizing legislation. The city, says Pikarsky, would support the concept. "The details of the proposal," he says, "would determine the degree of support."

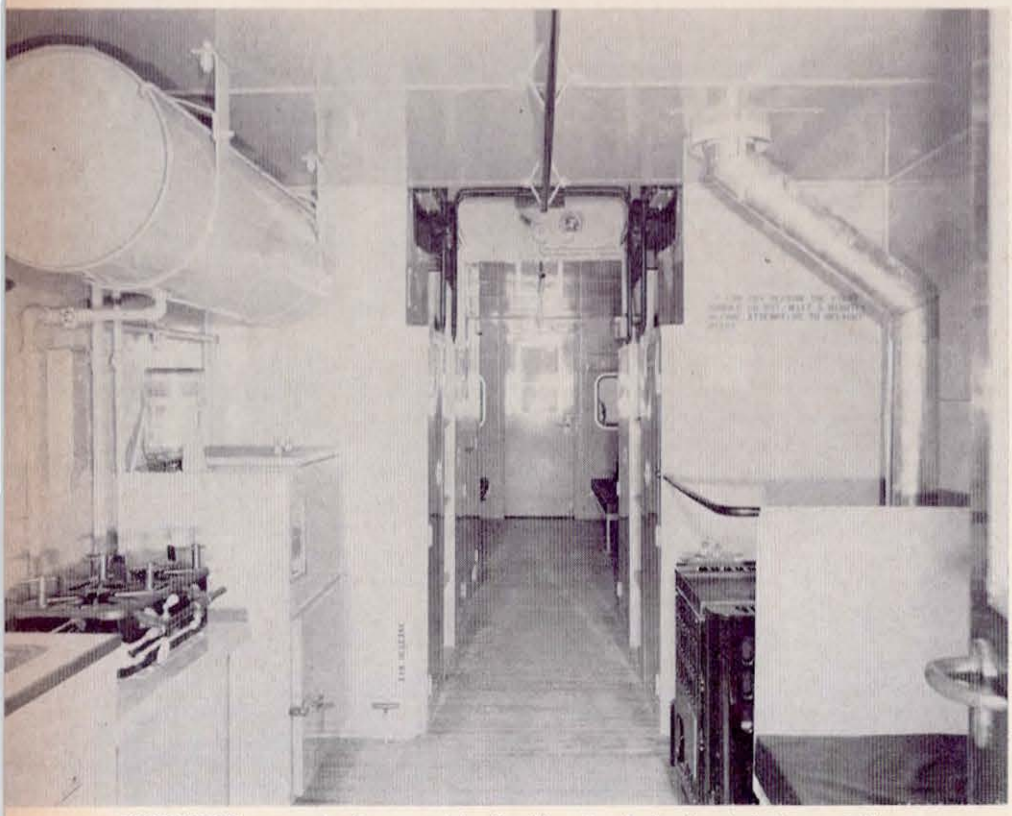
● **New York's plan.** If the proposal were translated into a regional transportation authority, Chicago again would be the Second City. New York already has one, the Metropolitan Transportation Authority. But the MTA is about as far removed from a solution to the airport access problem as is Chicago.

Like Chicago, MTA knows what it wants to do. It has obtained approval of a rail route leading from Penn Station in midtown Manhattan to Kennedy Airport. The route would use existing and formerly existing Long Island Railroad trackage from Manhattan to Queens, across Queens to Jamaica Bay; a reconstructed trestle over the bay to Rockaway (the former trestle burned in 1953) and onto Kennedy. The service would be non-stop, and all that is needed to build it and put it in operation is $50 million. MTA is also planning to build a second route, which would run from 48th Street and Third Avenue to JFK, but that line, which would utilize the proposed 63rd Street tunnel wouldn't be ready before 1977. The line emanating from Penn Station will take approximately three years to build, putting it in service in 1973 if construction begins tomorrow.



THE FIRST AIRPORT RAPID
The example for the rest of the world was set 15 years ago when Brussels inaugurated rail service to its airport.

Meanwhile, highway traffic along the routes to Kennedy continues to become more congested—as it does along the routes to most metropolitan airports. The problem continues to be studied—in Baltimore, Boston, Detroit, Atlanta, Los Angeles, Kansas City—at almost every major airport in the country, while responsibility for solutions continues to be passed from city to state, from railroad to airline. In New York, a special group called the Kennedy Airport Access Project is comprised of representatives of all interested parties—but the power is clearly being wielded by the MTA. Chicago may have the answer. The city, says Pikarsky, can see the adverse economic effects which would flow from a failure to provide adequate airport access. It is willing to take the lead, but it has let the airlines know that airport facilities will not be increased, as the airlines have requested, until the problem of getting people to the airport has been solved. ■



ACOUSTICS came in for special attention in designing interiors of the new cars.

CUPOLA CABOOSES are ordered by N&W

These new cabooses should be a

Safety and comfort for train crews were basic elements in preparing specifications for 150 cabooses being built for the N&W by the International Car Co.

Scheduled for completion at the end of February was one of the largest caboose orders of recent times. International Car has been building the 150 cupola-type cars for Norfolk & Western at its plant in Kenton, Ohio. N&W officers report that these latest acquisitions should go far in replacing the road's remaining wooden cabooses.

The effect of the $3-million order on the economy of the central Ohio community of 9,000 which advertises itself as the "Caboose Capital of the World" is undeniable. Actually International Car Co. manages to keep its shop operating with a good degree of reliability as railroads push the replacement of outmoded equipment for their train crews.

The N&W cars have been rolling off the production line at the rate of eight per week. This is really a repeat order—50 cars of virtually the same design were completed earlier last year.

When it came time to prepare specifications for the newest lot of N&W cabin cars (as that road calls them), there were only a few changes from the earlier group. The cars would have the Waugh cushioned underframe, propane heating and cooking installations, 70-gallon water system, roof-mounted plug-in antenna and shockmount rack for walkie-talkie radio, and many other features of the previous cabooses. Sound deadening came in for special attention

● **Quieter than a jet cabin.** The problem of high noise levels within cabooses has received considerable study recently. Lord Manufacturing Co., producer of elastomeric products, has worked with several railroads to alleviate this problem. Lord finds that most caboose noise originates from metal-to-metal contact between wheel and rail and between truck components. These excitations are transmitted through the bolsters to the carbody where they can be amplified by the reverberative characteristics of the caboose shell. The resonant frequencies of structural members can generate noise at sufficient levels to make conversation and radio communication difficult.

Lord worked closely with the Rock Island on this problem and could subsequently report that a caboose modified with center-plate bearings contain-

although merger brought sizable fleet of bay-window cars into the road's ownership.

home away from home

ing elastomers and with acoustic treatment of the car lining was actually quieter than the first-class compartment of a popular jet airliner at full cruise power.

In place of the steel lining used in the first 50 N&W cars, the new cabooses are finished with ⅜-inch exterior-grade plywood secured to the structure with self-tapping screws. Beneath the edge-grain Durawood floor, a sheet of Homasote insulating board covers the entire bottom of the carbody acting as both a thermal and acoustic barrier.

● **Elastomeric bearing.** N&W has followed the lead of several other railroads in adopting Lord's bonded rubber-and-steel center bearings which are installed in the truck center plates. The sandwich construction of steel plates and elastomeric rings not only isolates the caboose body from track and truck vibrations but also accommodates the swiveling motion of the trucks without lubrication or wear and cushions fatiguing and annoying floor vibrations. In addition to the sound deadening effects of the center bearings, constant-pressure, buffer-type side bearings with rubber pads have also been installed on the trucks.

The trucks are converted by N&W for caboose service prior to their delivery to Kenton. All are of the integral-box, 50-ton type converted for application of roller bearings and retaining their Ride Control features. Original springing is supplanted by special single-coil, long-travel (3-11/16-inch) springs with ½-inch Fabreeka pads installed over the groups for added sound deadening. The change in spring configuration is possible because the completed car has a virtually constant on-the-rail weight of 52,000 pounds as compared wtih the possible 177,000 pound rail load when these same trucks are used under freight cars.

The car is basically a welded design assembled by a series of automatic, semi-automatic and hand welding processes. Produced in a series of jigs are the major subassemblies—underframe, sides, ends, roof and cupola. The underframe has 10½ inches of "restrained" travel in either direction supplemented by Waughmats designed to absorb 3 inches of buff action.

Like all the other metal ¼ inch thick, and under, in the carbody, the 10-gauge sides and ends are of corrosion resistant copper-bearing steel. Prior to installation of the plywood lining, the sides, ends and roof are insulated with 3-inch fiberglass.

● **Added comfort.** In addition to the addition to the attention paid to noise control, the safety appliances and guards meet or exceed FRA and AAR requirements. An overhead grab rail extends the length of the carbody and all cabinet and locker corners are beveled while their door handles are recessed for added safety. Armrests are padded and a high-backed swivel seat is provided at the conductor's desk.

The car's tool locker has rubberized surfaces to minimize rattling and hand brake rods are supported in insulated hangers, again to minimize noise. The New York Air Brake ABD equipment includes a standard cylinder bushed for use with composition brake shoes. An Ellcon-National brake regulator is incorporated in the brake rigging.

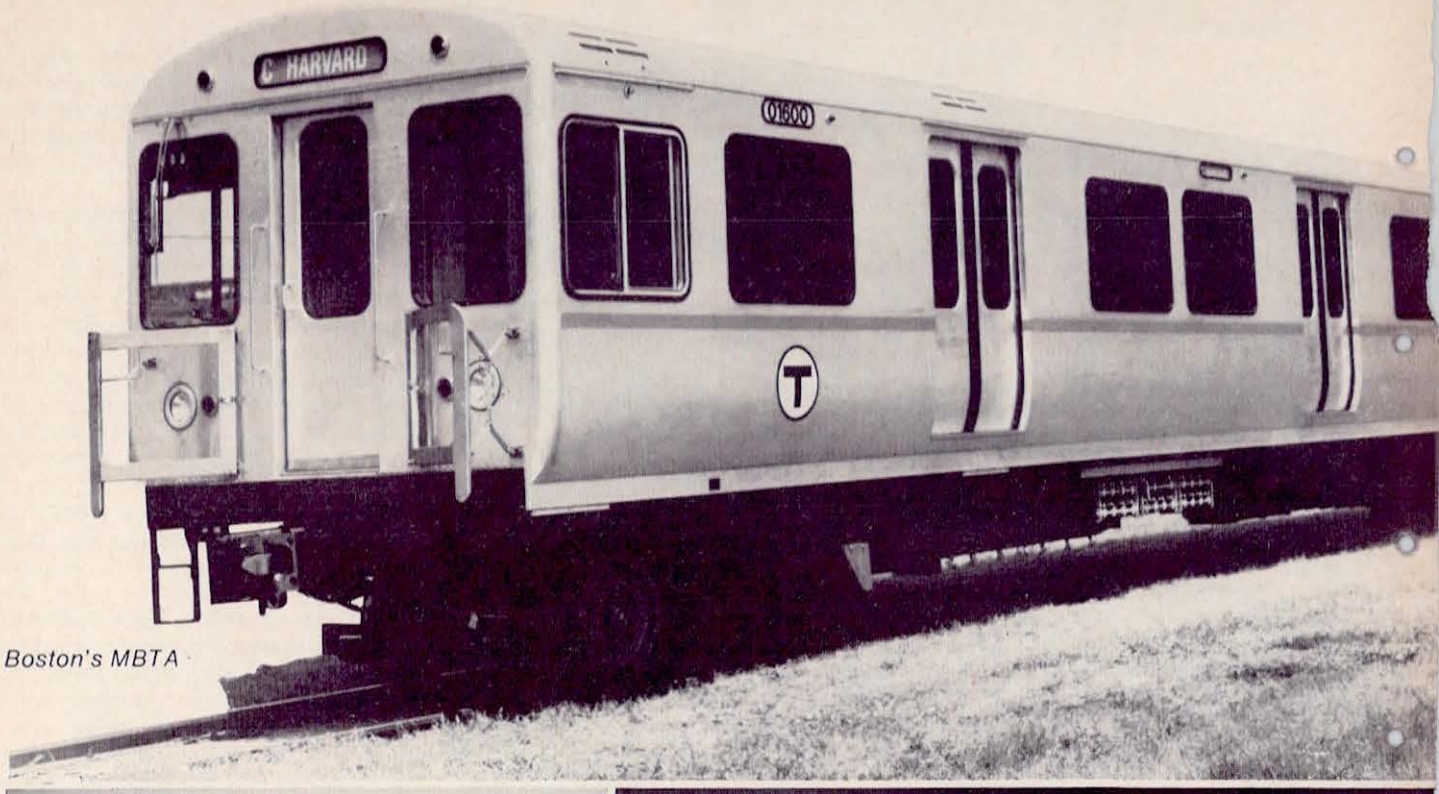
Glass in all windows is of the laminated safety type installed in Adams & Westlake anodized aluminum sash units. Vertical sliding sash units in the carbody are fitted with aluminum screens.

Interior equipment includes three bunks with 4-inch foam padding, cupola seats with similar vinyl upholstery, a Mink ice-type refrigerator and water cooler, stainless-steel lavatory, stainless sink cabinet with formica top and lockers below, a two-burner hotplate and the propane-fired space heater with thermostatic control.

Like the water system, the car's fuel system is designed for refilling from ground level. While the 70-gallon water tank is located within the body, the 150-gallon propane tank is hung beneath the body and is charged from a propane truck which can travel along the caboose storage tracks at major N&W yards. This represents a departure from the design of the 50 earlier cars which are fitted with replaceable propane tanks.

The exterior of the body and cupola are painted N&W blue with yellow Codit lettering and trim and with yellow and red Scotchlite panels on the body ends. The underside of the double floor receives a heavy coat of car cement. Interior finish is a suede gray semigloss enamel; the hardwood floor receives a clear coat of DuPont Imron.

The carbody has an inside length of 30 feet; over the open-grating platforms the length is 36 feet 7¼ inches. Over the top of the cupola height is 14 feet 8 inches. ■



Boston's MBTA

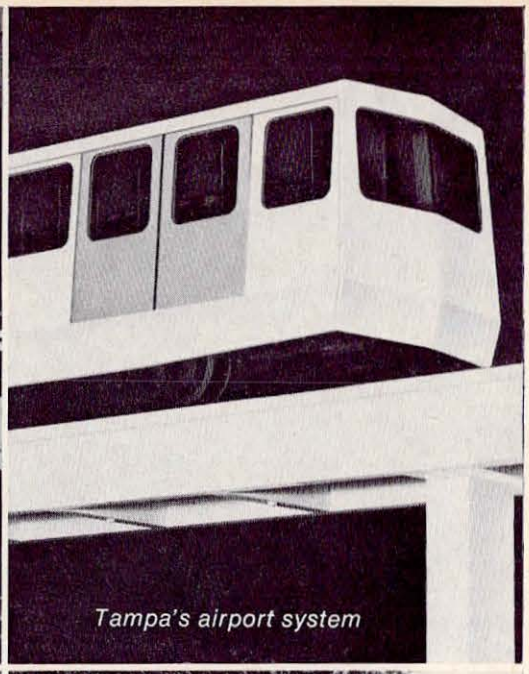
New York's PATH

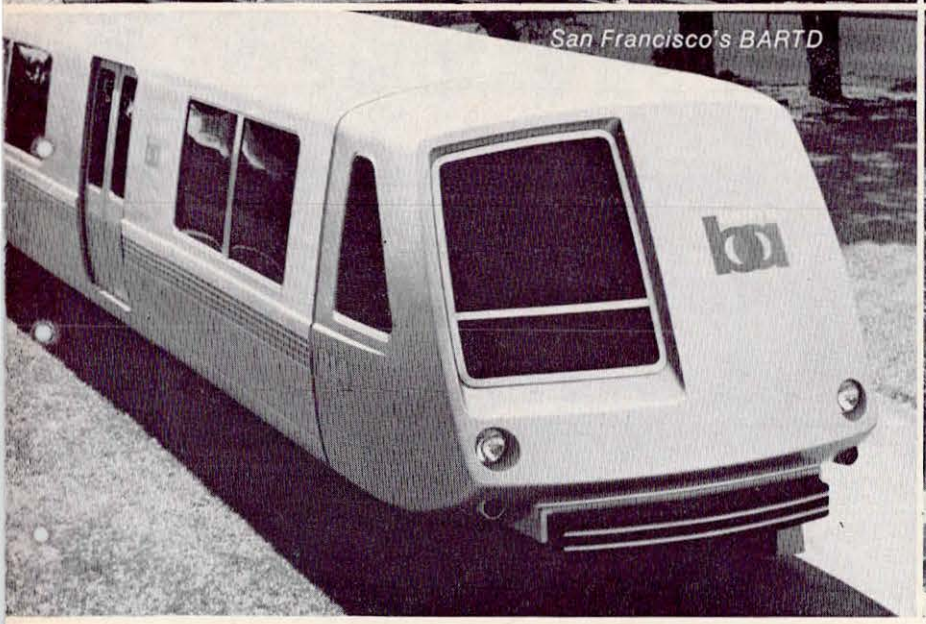
United Aircraft's Turbo-train

There are seven good reasons for aluminum transit cars.

Any one of them is reason enough.

Toronto's TTC


Tampa's airport system


San Francisco's BARTD

Prototype of Washington's Metro car

Light weight, durability, beauty, corrosion resistance, low-cost maintenance, safety, and 66 years of Alcoa experience in transportation. There may be other reasons, but they hardly seem necessary. The most recent rapid-transit projects have appreciated the advantages of aluminum: New York's PATH, Boston's MBTA, San Francisco's BARTD, Toronto's TTC, Tampa's airport system, United Aircraft's Turbo-train and the prototype of Washington's Metro car. All have chosen Alcoa® aluminum for one good reason or another.

In planning and/or designing for rapid transit, think in terms of Alcoa aluminum. It gives you a lower cost initially, a greater range of finishes and forms with which to work, and it reduces maintenance costs. Taking advantage of aluminum's light weight will mean lower operating costs as well as less wear on brakes, wheels, bearings, rails and roadbeds.

And with aluminum, you no longer have to be concerned with either corrosion or painting. One of the most attractive finishes you can get for your cars is *bare brushed* aluminum.

For more information contact your Alcoa sales office.

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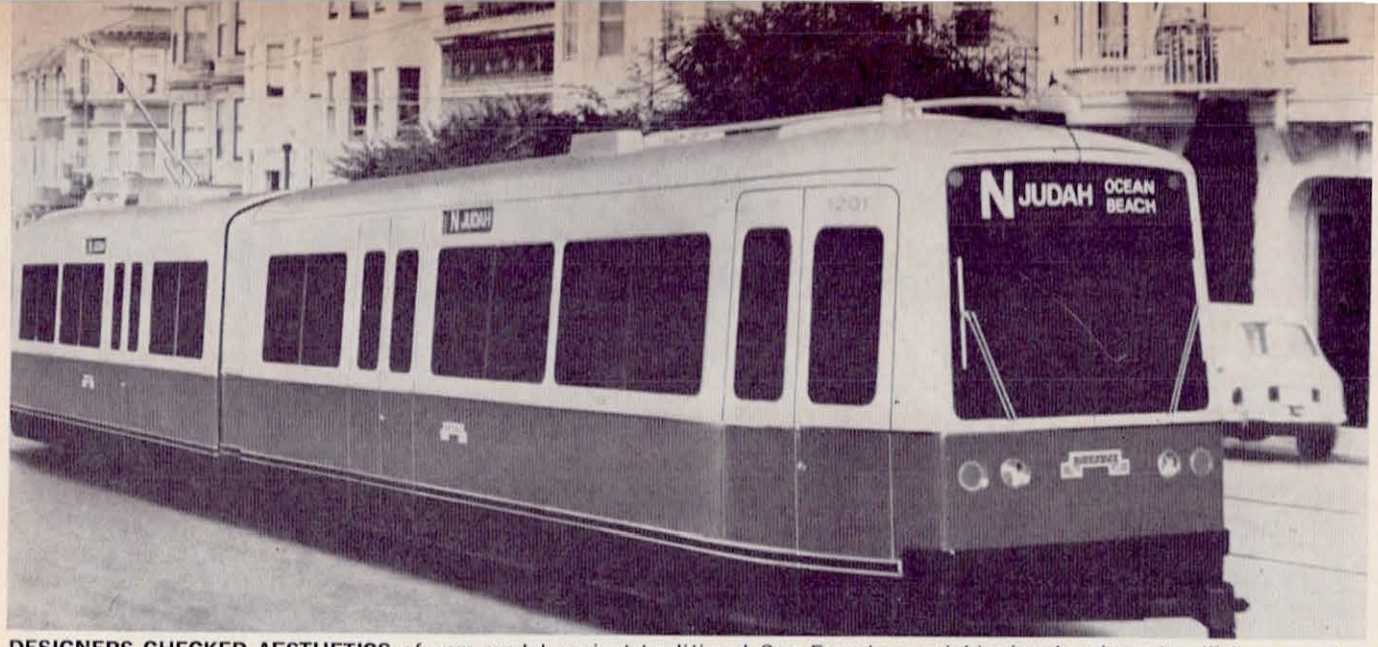
ALCOA



DESIGNERS CHECKED AESTHETICS of new model against traditional San Francisco neighborhoods where it will be operating.

IN SAN FRANCISCO:

The latest thing in streetcars

After nearly 20 years, a U.S. city will be buying new trolleys.

ARTICULATION adds more seats to the proposed vehicle.

San Francisco will soon be ordering 78 new transit vehicles estimated to cost in excess of $19 million. While preliminary specifications designate them as "Subway-surface rail cars," to even the most uninitiated they are quite apparently streetcars, pure and simple. And the Golden Gate City makes no bones about it.

Explains William E. McDonnell, president of San Francisco's Public Utility Commission: "We decided to keep and improve our streetcar system at a time when other cities have either phased theirs out of existence—or have plans to do so. Streetcars are smogless, quiet, comfortable—and they move large volumes of riders quickly and efficiently." They are seen as potent weapons in the city's fight against air and noise pollution, inevitable with local bus operation.

(The Golden Gate City's streetcar system should not be confused with its classical cable cars which are also operated by the Municipal Railway. Despite annual losses approaching $2 million, John M. Woods, Muni's general manager, reports a proposed bond issue includes funds for building three new cable cars and rehabilitating seven of the 39 in the present fleet. While quaintness is the prime characteristic of the cables, Muni is striving for the latest thing in streetcars in its upcoming equipment replacement.)

- **Separate streetcar subway.** San Francisco's desire for streetcars is not of recent origin. The subway tunnel of the Bay Area Rapid Transit which has been pushed up Market Street, the city's main thoroughfare, has a separate Muni streetcar subway on a mezzanine level. This plan for eliminating surface trolley operations from Market Street has been a decade in planning and will produce something similar to the subway-surface services of Boston and Philadelphia. While some San Francisco streetcars will emerge from the Market Street subway directly onto streets, those serving the western portion of the city will first traverse the lengthy existing trolley tunnel through the Peninsula's mountainous backbone.
- **First since '52.** The five existing surface lines are operated with 105 PCC streetcars varying from 18 to 24 years of age. It was in 1952 that the last trolleys were built in the U.S. With the new downtown subway progressing, officers of the Municipal Railway next gave attention to the aging car fleet. Engineering and design specifications for the new car were prepared by Louis T. Klauder and Associates, consultants on many recent transit projects. Design of the carbody and its features were developed by Peter Muller-Munk Associates, Pittsburgh-based industrial designers.

Klauder produced a 76-foot vehicle, carried on three trucks and articulated at the center. This arrangement, it is claimed, is particularly well suited to

How does Santa Fe wash the interiors of 200 covered hopper cars per shift?

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The two-track system includes two remotely controlled progression Robots and a pair of Whiting Trambeam underhung cranes, each equipped with unique "washing wands" with roto-jet nozzles. The job begins with the Robots advancing 45-car cuts on each track in 2-car increments. With the lead cars in position, the washing wands are lowered through the open top hatches and the rotating nozzles start spraying 140 gallons of water per minute at 400 pounds per square inch. Full spherical coverage by the spray guarantees clean cars.

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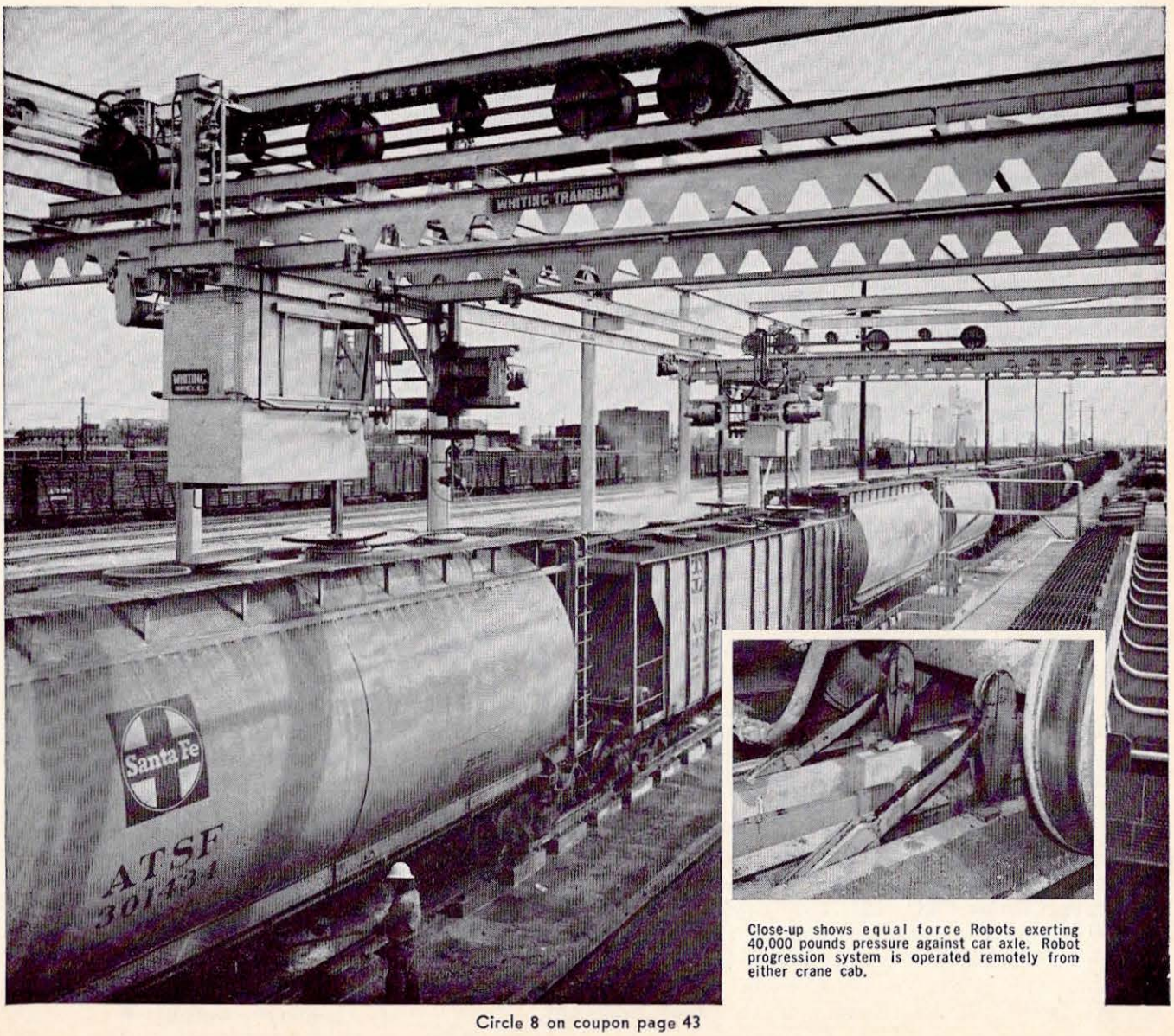

Close-up shows equal force Robots exerting 40,000 pounds pressure against car axle. Robot progression system is operated remotely from either crane cab.

Circle 8 on coupon page 43

Watching Washington

BUSINESSMEN TAKE A STAND

FRANK MALONE

The businessmen's spokesman, the U.S. Chamber of Commerce, is taking a clear stand on two issues of importance to U.S. railroads—transit and safety.

In a reversal of previous views, the Chamber is supporting the Administration proposal for a multi-billion dollar Federal-aid program for urban mass transportation, a proposal passed by the Senate and now undergoing House hearings. And in its first statement on rail safety, the Chamber is supporting greater power over safety regulations by the transportation secretary. Safety legislation also awaits House action.

Chamber support for the Mass Transportation Assistance Act reverses a pattern of opposition to Federal transit aid in previous Congresses. The Chamber now tells legislators that communities need long-range assurance of Federal help for transit programs. And such programs are needed, the Chamber says, because anything less than mobility equal to growing urbanization "will serve to promote economic and social strangulation." The Chamber says its own constituency needs mobility as much as anyone: "Businessmen are directly affected by the adequacy of urban transportation services and recognize their responsibility to work closely with all levels of government on this problem."

GOVERNMENT SHOULD HAVE FULL SAFETY POWER

As for rail safety, the Chamber says "Substantial uniformity" is needed for effective regulation. For that, the Chamber says, the Transportation Department must have "exclusive authority" to prescribe rules.

That means, the Chamber says, that "Federal authority in this area should be established under a comprehensive statute, which would permit existing state safety laws and regulations to remain in effect only until Federal standards are developed or until it is determined that such standards are unnecessary."

CHAMBER FOR COMMON OWNERSHIP, USER CHARGES

Other Chamber positions of interest to rail men include support for common ownership and user charges. "Congress should permit operators of one form of transportation service to operate other forms within reasonable territorial limits upon making an adequate showing that it would be in the public interest." On user charges, there is this: "Whenever practicable, the costs of building, operating, and maintaining any domestic transportation facility provided by government should be met by fair and equitable charges paid by those benefiting from such facilities."

Such statements are produced mainly by the Chamber's transportation committee, composed of a 35-man cross-section of modes and shippers. Four rail executives are included: Owen Clarke, C&O/B&O vice president, who heads the policy subcommittee; Anthony Kane, Burlington Northern vice president and general counsel; W. Thomas Rice, Seaboard chairman, who is also on the Chamber's board of directors; and W. Jerome Strout, Bangor & Aroostook president.

the sharp curves and steep grades of the San Francisco Muni system. Articulation permits a longer, higher-capacity car than could otherwise be used.

The proposed 78-car fleet will have a passenger-carrying capacity 25% greater than the existing 105 cars, all of which would be replaced. Each new car will carry 180 passengers (76 seated and 104 standing), compared with the 120 in the present cars (55 seated and 65 standing). Running times are estimated to be cut virtually in half because the six 100-hp motors on the 87,000-lb (loaded) will give an acceleration from 0 to 40 mph in 15 seconds. Among the structural features will be the ability to load from high-level platforms in the subway and at ground level when operating in streets.

• **Quieter, lighter.** Detailed scale models of the exterior and interior of the proposed car were developed by Peter Muller-Munk Associates for presentation to the PUC, which operates Muni. The basic car form is simple with a low skirting hiding most of the underbody equipment. As described by Paul Karlen, chairman of PMMA, both the exterior and interior of the car are designed to make high-speed intracity transit an exciting, pleasurable experience. Karlen stresses the passenger convenience of the articulated concept, often used in Europe and only infrequently in America, noting that it provides uninterrupted passage between the two sections and allows the interior to be treated as a single unit.

In achieving a warm environment, the designers have recommended a color scheme consisting of an off-white ceiling, yellow-gold seats, and light beige side walls. Warm fluorescent lighting, heating vented near the floor, and ceiling-diffused air conditioning are added comfort features.

Louis T. Klauder describes the new cars as quieter, lighter, more comfortable and better lighted than the PCC cars—and many other transit cars. While automatic control will limit speed to 40 mph for surface operation, the cars will have a 68-mph top speed in tunnels. Cab signals will be actuated by audio-frequency overlay track codes. Braking will be provided by three separate systems, any one capable of stopping the car in the event of the failure of the others. There will be electrodynamic, electro-pneumatic and electromagnetic track brakes. The cars will be equipped for multiple-unit operation.

Financing of the new Muni fleet will be accomplished by a $51.5 million non-profit corporation set up for the purpose. The new cars are expected to be in service by 1972. One observer has noted that revived interest in street cars might bring Philadelphia and Boston into the market. ■

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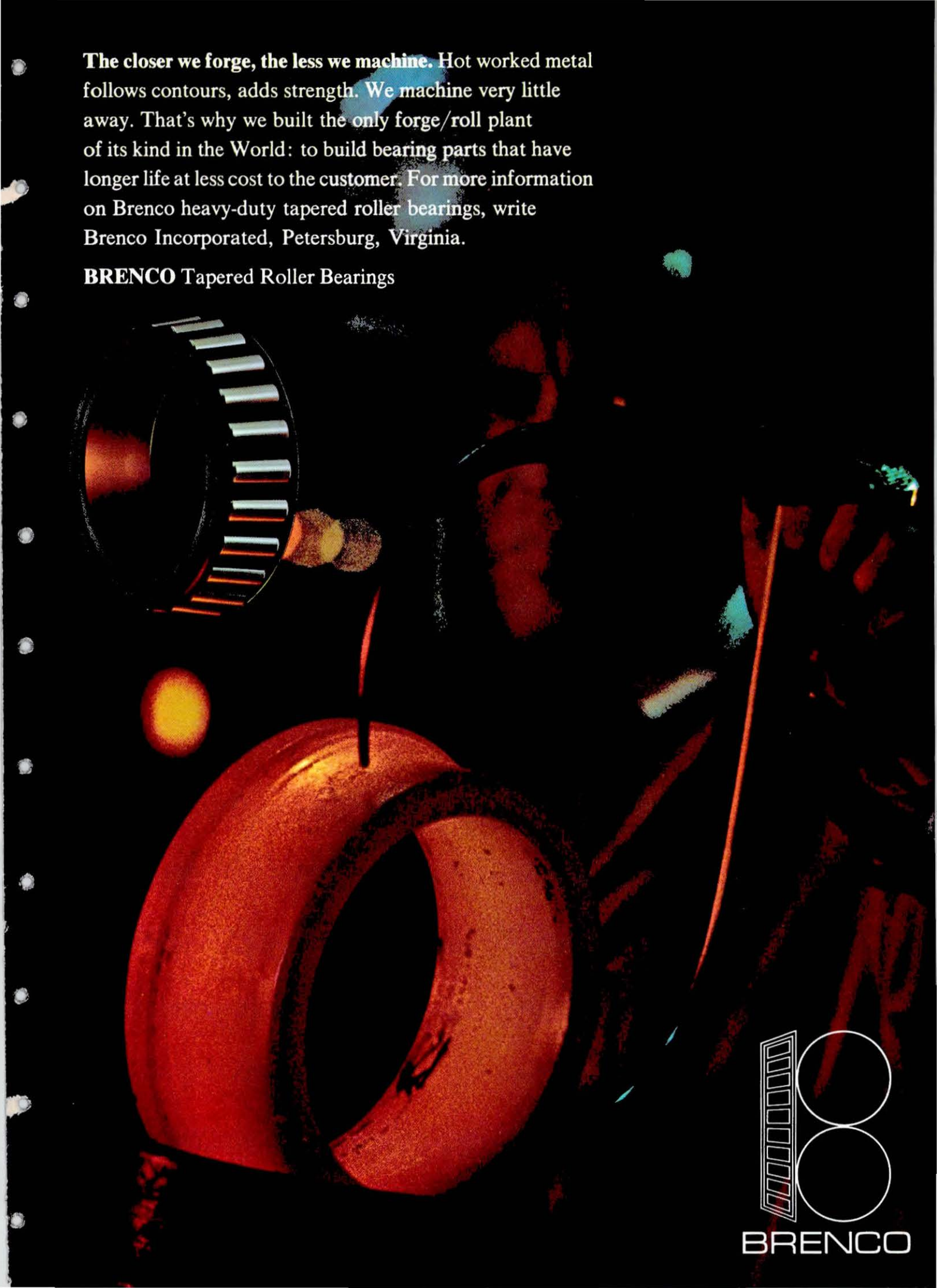
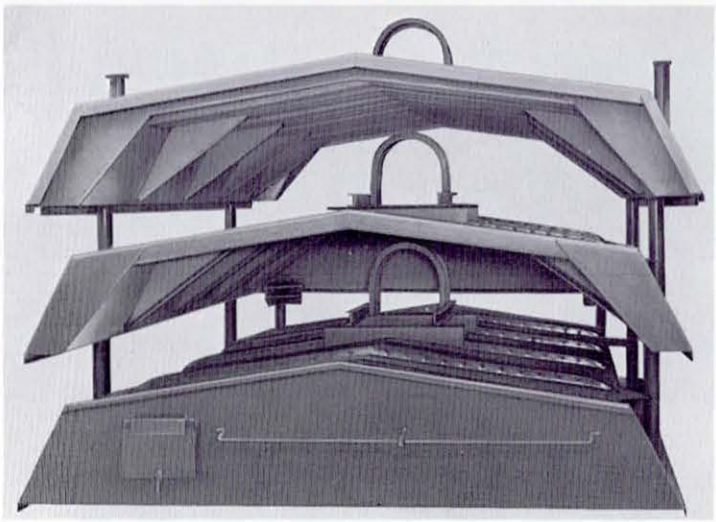
BRENCO Tapered Roller Bearings



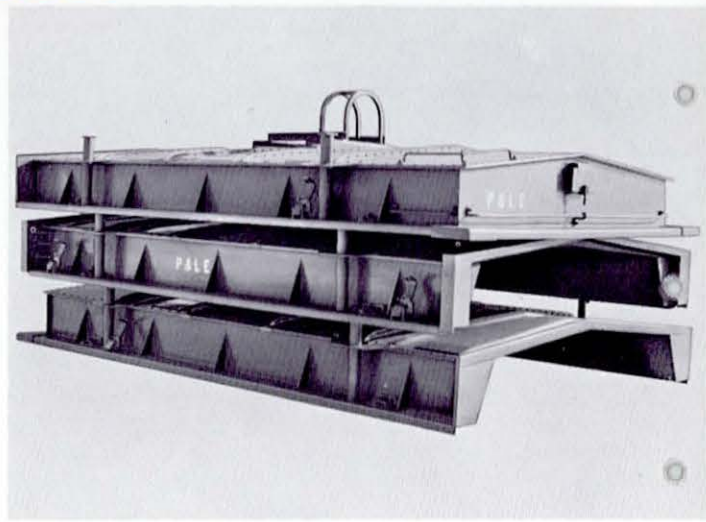
BRENCO

What's Stanray done for railroads lately?

Removable roofs...

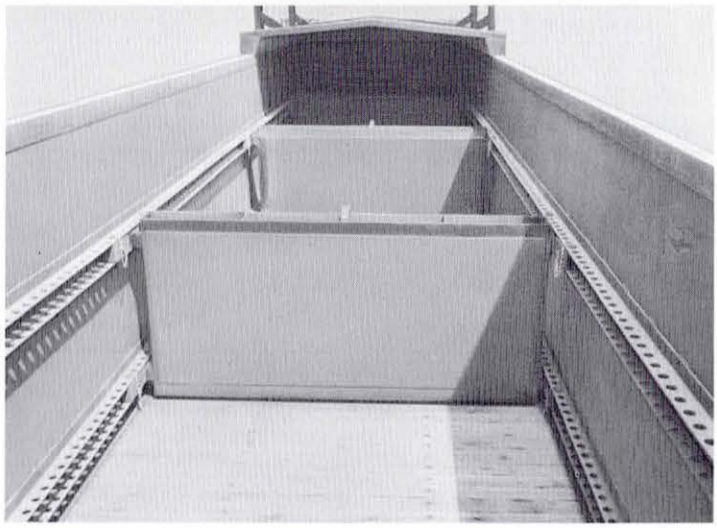


Tri-section roof provides up to 9 feet of loading space. Is available with top inspection hatch and running board, or with end-mounted hatch and no running board.



Low-profile 3-section removable roof is reinforced for extra strength. Has stacking stanchions and end-mounted inspection hatch.

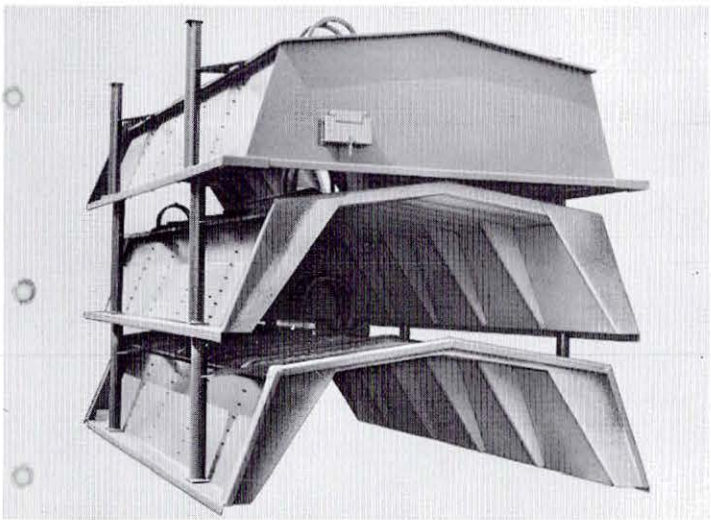
Bulkheads...



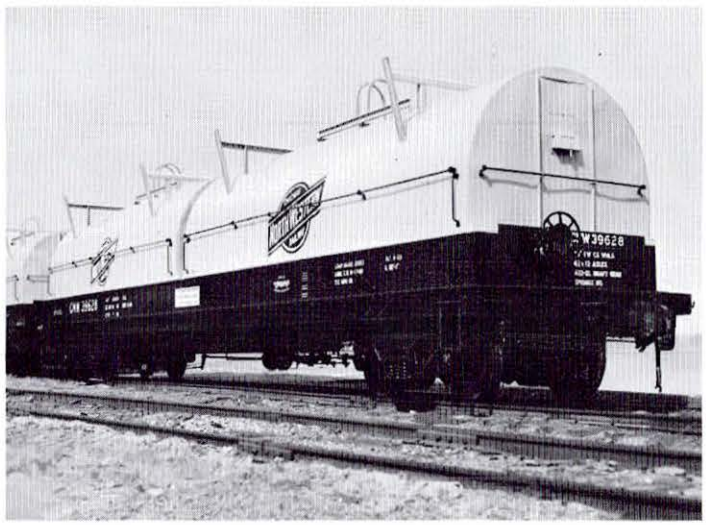
High strength bulkheads using 9 inch channel framework and 3/16 or 1/4 inch steel facing sheets. Can be used with or without wood facing—Furnished with manual or automatic locking devices and special belt rails.

Ends and sides

The corrugations of Standard Dreadnaught Ends and Sides provide the greatest resistance to shock and impact—add strength where it's needed most.



This 3-section removable roof provides a gondola with 75 percent of the capacity of a boxcar. Is specially reinforced, stacks easily, and comes with top or end-mounted inspection hatches.



Twin-section coil cover can be easily stacked for loading or unloading. Has end-mounted inspection hatch.

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division of STANRAY CORPORATION
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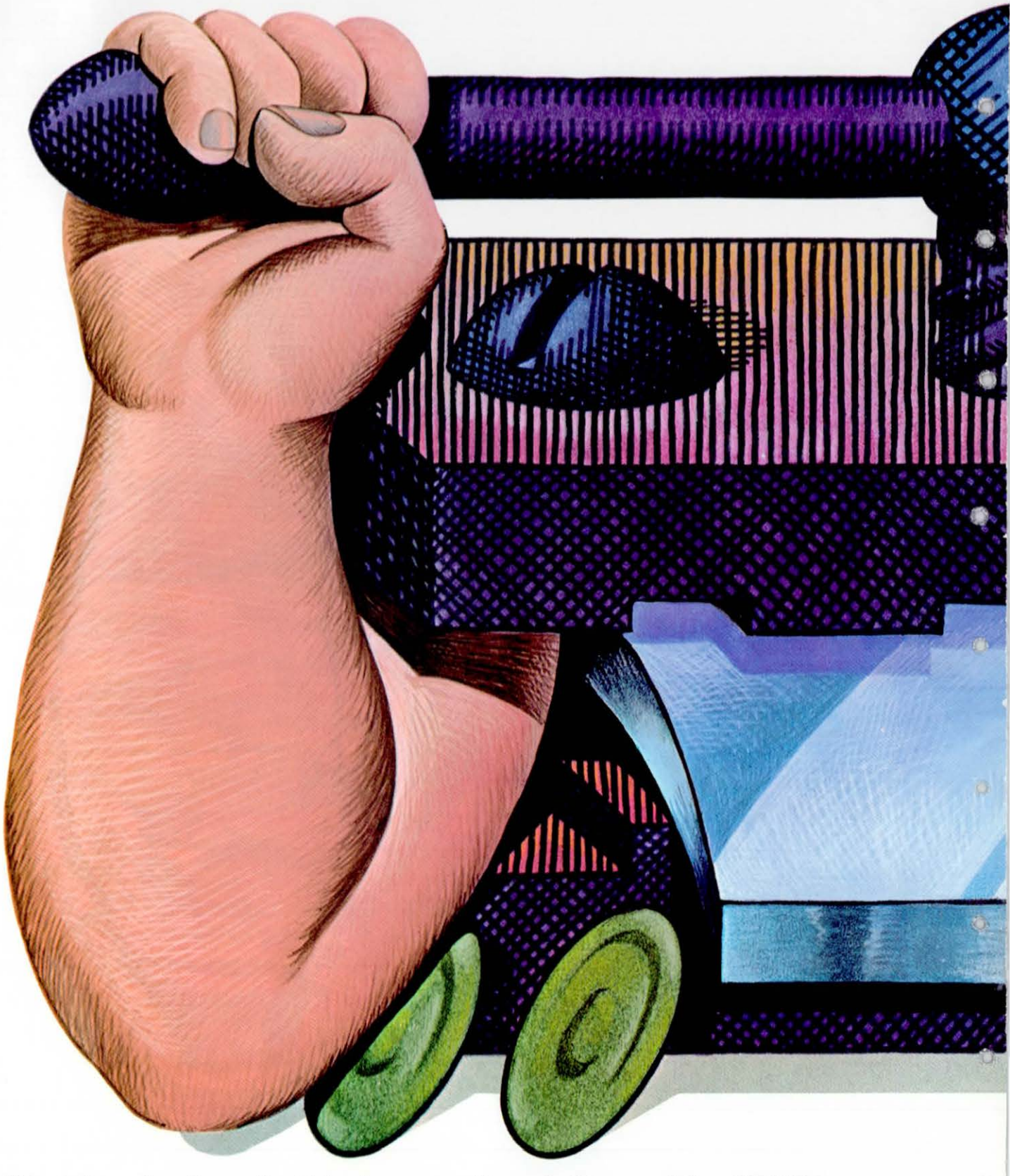

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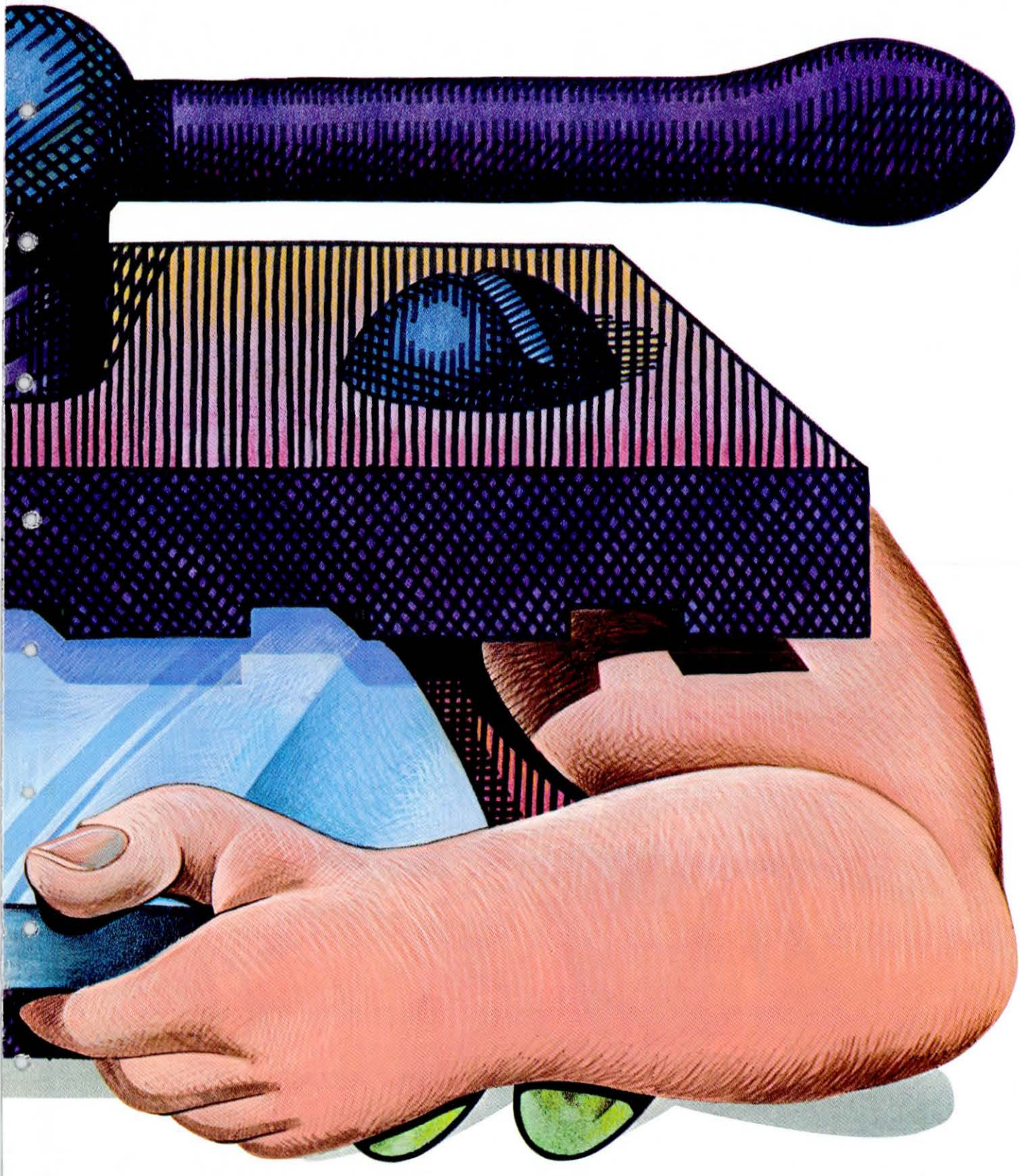
But don't stop there. Add several more. Then add America's biggest plasma arc burning machine that cuts through steel like butter. And "drive-through" shot blast machines large enough to accommodate three freight cars at a time. Install electronic tape controlled lathes, punches and drilling machines that



provide precision to the fraction of a thousandth of an inch. And, if the right machinery doesn't exist, design your own, like the world's only interior shot-blaster for covered hopper cars. But, what does the world's only *this;* and the world's biggest *that* mean to you? It means Pullman-Standard is equipped to build better rail cars than anyone in the world.

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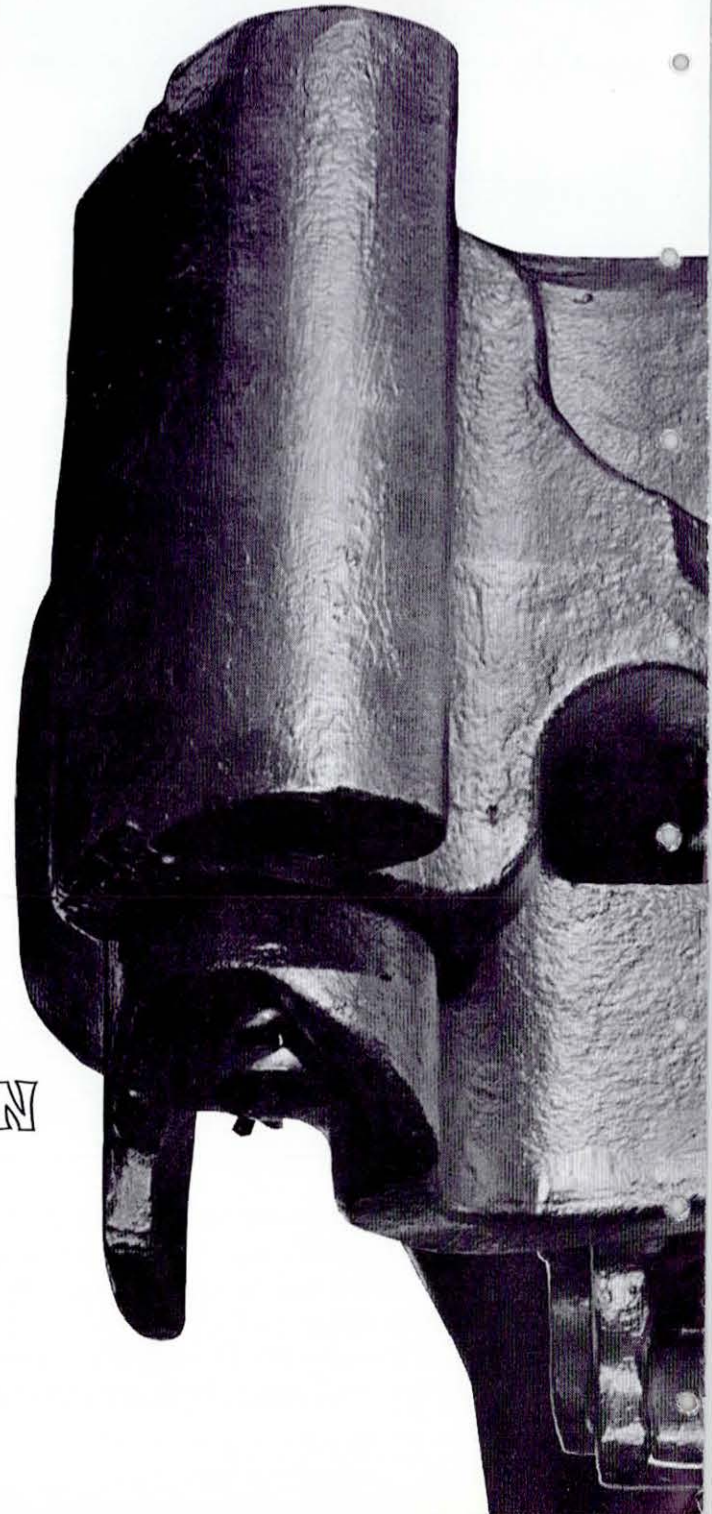

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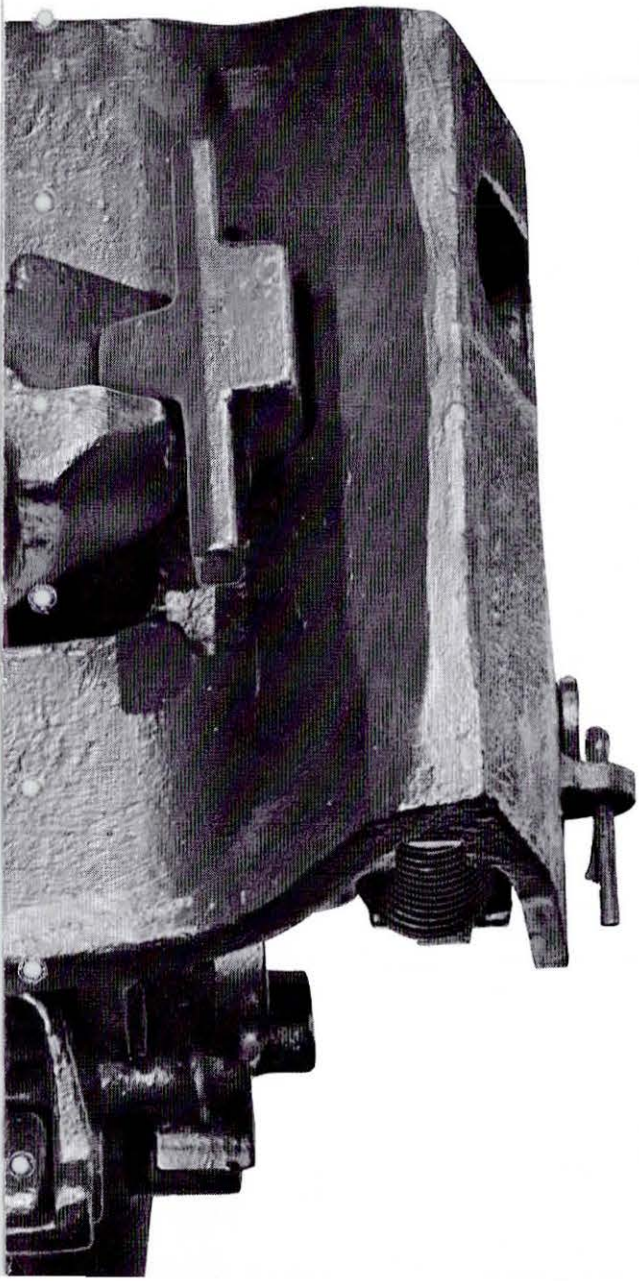

Here's What Compatimatic Does. Utilizing standard components and additional mechanical parts, Compatimatic is ready to couple at all times . . . couples with any standard AAR coupler without any idler or transition device. Compatimatic fits any existing coupler shank or any car without alterations . . . gives 4 inch lateral gathering during coupling . . . eliminates closed-knuckle miscoupling . . . won't react to vibration or shock.

Here's Why Compatimatic Is Safer. Less need for yardmen to go between cars. No need to help ease open the knuckle by hand. No need to connect airlines manually if optional automatic trainline connector is used.

Here's How Compatimatic Works. Comprised primarily of AAR standard components, Compatimatic has coupler body design modified to accommodate additional parts. Compatimatic has unique plunger in guard arm side of contour. Forced rearward by knuckle of opposing coupler, this plunger disengages automatic feature, thus permitting coupler parts to operate normally. When not coupled, plunger moves forward and automatic feature is activated.

If these exclusive coupler features still don't grab you, then consider this also: You now get "instant" coupler service on all coupler types from all National sales offices. They give you immediate, **same day availabilities . . . arrange for rapid shipment from stock with specified delivery date.** Why fight it any longer? Just grab the phone and swing us into action.

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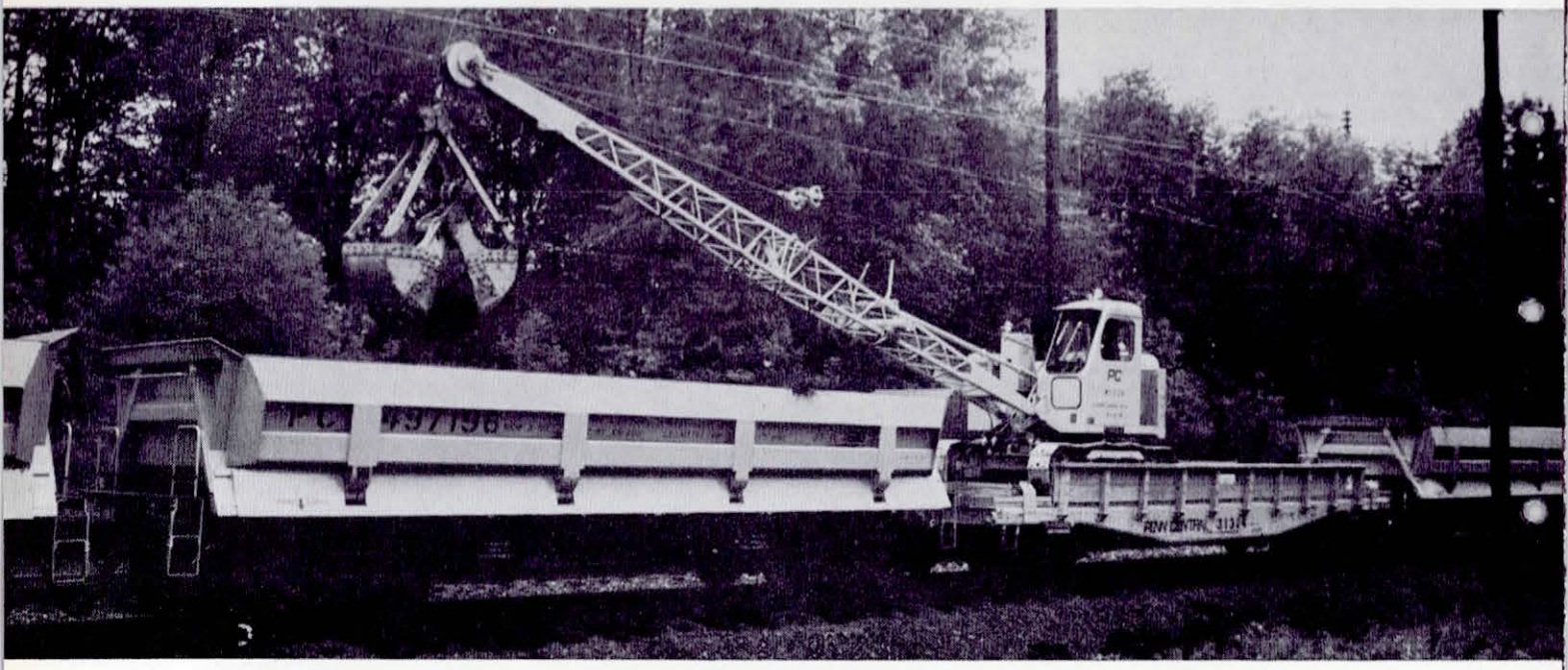
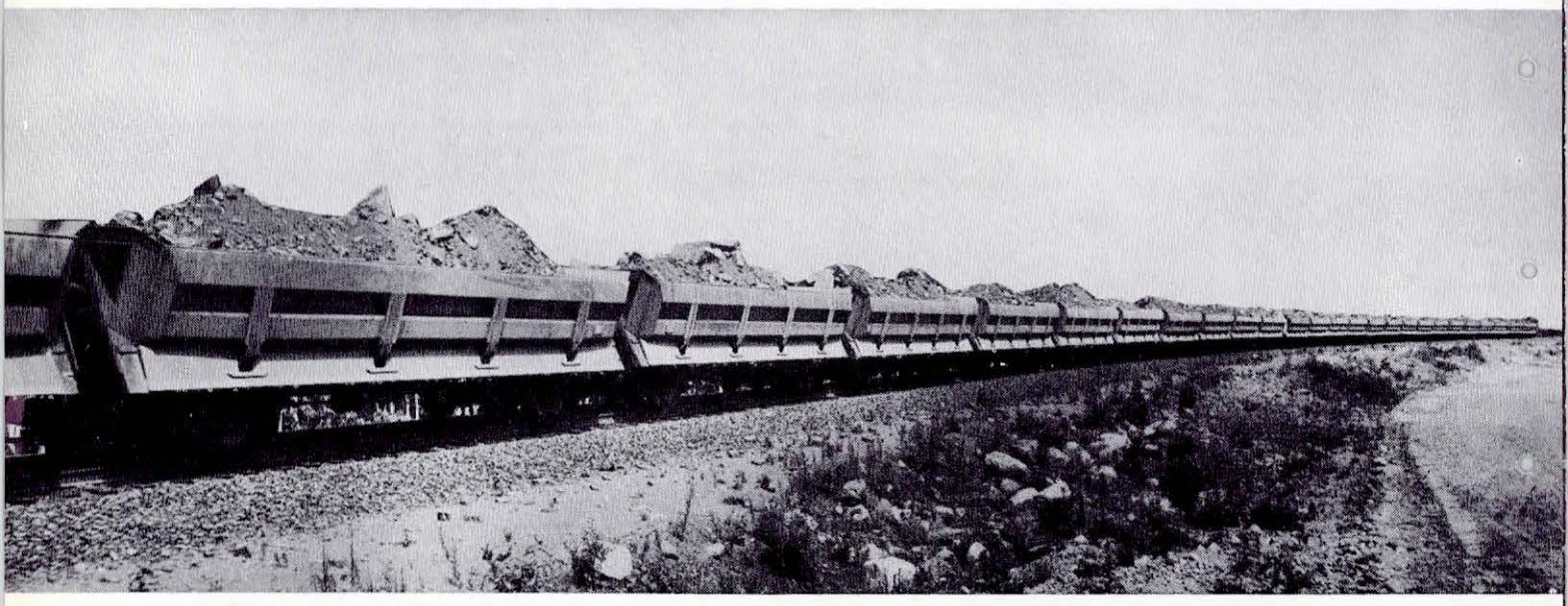
WHETHER IT TAKES 2 CARS



OR A STRING OF 36



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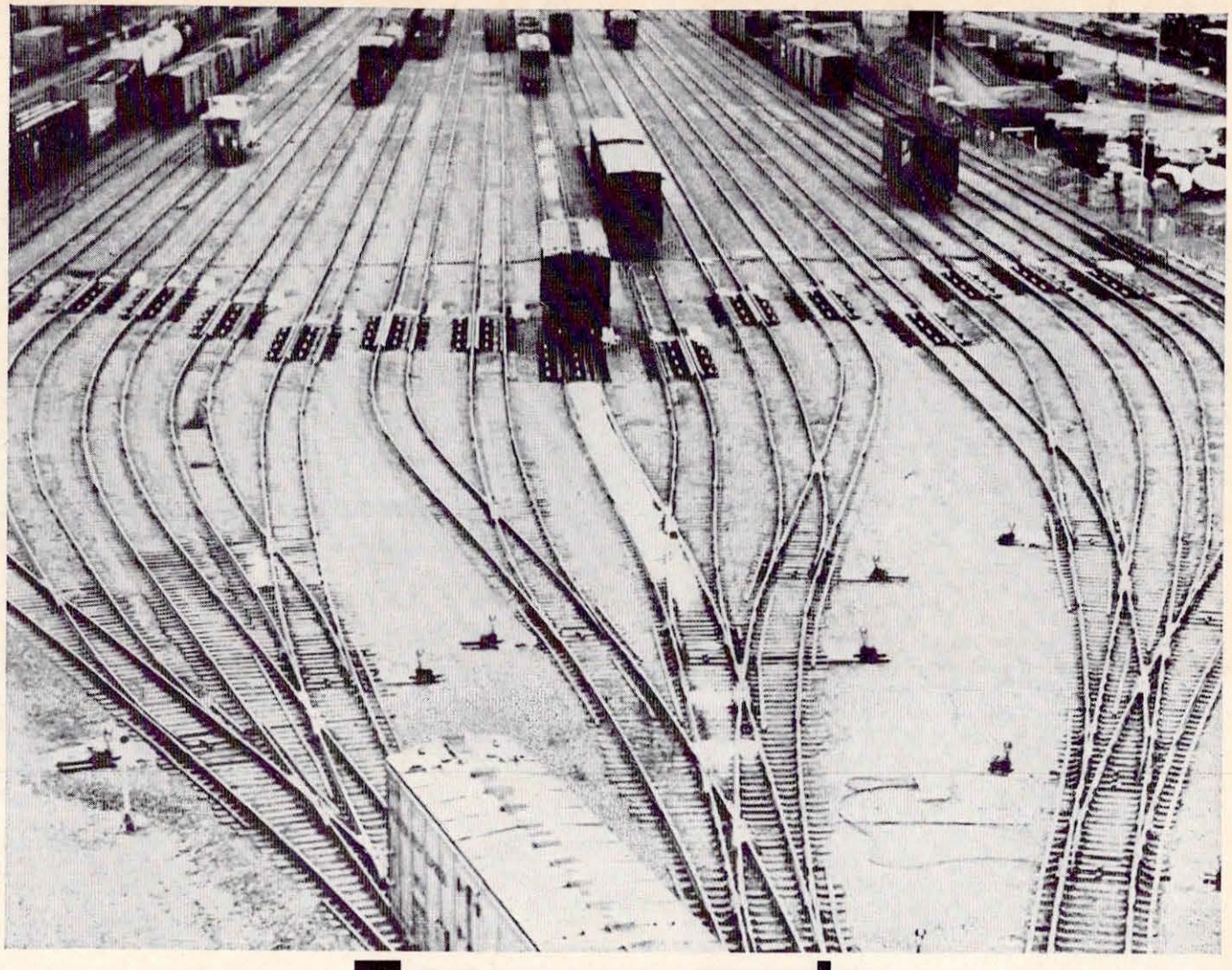

Two more yards switch to Abex Economatic® Concept.

When yard traffic out-runs car-handling capacity the solution is simple. Upgrade by converting to the Abex Economatic Concept.

Nine yards of seven leading railroads are already utilizing the time- and money-saving features of Abex push-button switching.

Now two more yards—involving a total of 53 tracks—are on the way to Economatic operation. Each yard is designed around a hump, plus Racor freight car retarders and remotely controlled switching to accelerate classification.

Completion of these yards will bring the Economatic total to 11 yards—an imposing record considering the relatively short time Abex has been making installations.

Abex installations also include numerous small car-handling systems for facilities such as industrial plants, mines and docks.

Would you like to see the Economatic Concept in action? Talk to your Abex representative. He'll gladly arrange a guided tour of any of the nine operating yards.

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Seattle, Wash. .....Great Northern
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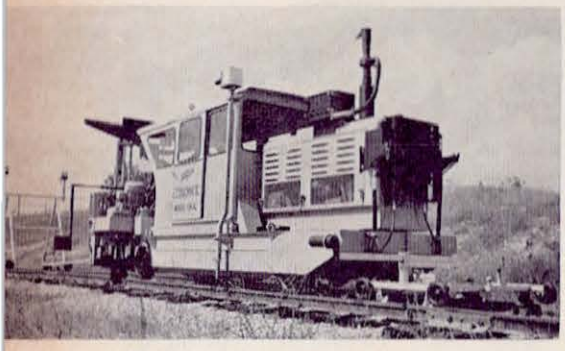
New Products Report

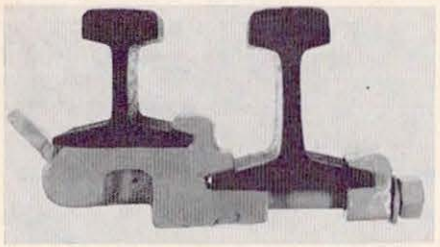


Tamper-liner (RA-1)

One of the latest tamper-liners to be marketed is the Tamper Model EMJL Economatic. Operated by one man, the Economatic raises, lines and tamps track using Tamper's semi-Delta control surfacing sytem with chord lining.

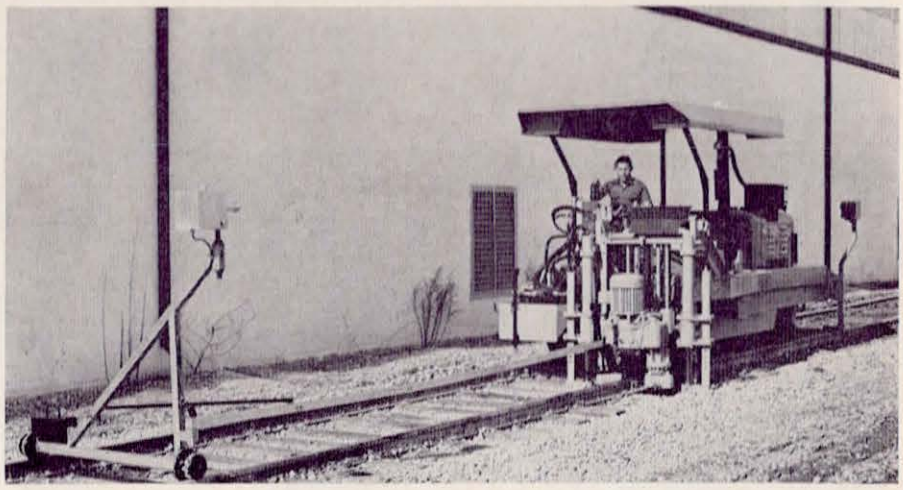
The Economatic reaches out ahead of its forward wheels and all of its work—raising, lining, tamping and cross-level adjustment—is produced at one tie. It is equipped with rail lifters which grasp each rail and reference it as to height and line, and no side jacks are necessary. Jacking and lining are accomplished by independent movement of the machine's first and second super-structure. At this point, four electric-driven workheads, carrying 16 tamping tools, vibrate and squeeze the ballast for consolidation.

Model EMJL is powered by a 155-hp, 1600-rpm GM diesel engine which drives a 75-kva alternator, dual hydraulic pump and hydrostatic-drive pump. The latter pump is a four-wheel drive in both directions for indexing from tie to tie and for traveling at speeds up to 50 mph. *Tamper, Inc.*



Flanged rail guard (RA-2)

A new flanged rail guard concept has been devised for rail crossing in paved areas. Designated Number 55, it has a rail chair bolted in position and a flange rail. Its feature is that it fits between the ties rather than on top of the plates. It is shipped with a mild-steel bar in an upright position. After the flange rail is in place, the steel is heated then bent over the flange for permanent installation. *Nelson Iron Works, Inc.*



Joint peak tamper (RA-3)

A single-head tamper, designated the Joint Peak Tamper, is available for joint peaking and limited spot surfacing by one-man operation. This is said to be an economical tamper intended primarily to fill the need for joint maintenance without being diverted to other track surfacing, as other tampers often are, leaving the joint-peaking work still to be carried out. After working a few miles on one rail, it is turned and is worked on the opposite rail.

The unit employs the Tamper infra-red light-beam reference sytem, using a front buggy and tow bar, that is said to result in uniform jacking at each joint. It raises the joint to a predetermined setting and tamps the ties at the joint and either side, depending upon conditions. It has a pre-set but adjustable cut-off of the squeeze pressure to provide uniform compaction, with automatic jacking and automatic down feed cut-off.

It is powered by a 115-hp GM diesel engine at 1600 rpm, which drives an alternator and hydraulic pump. Propulsion is by fluid drive. *Tamper, Inc.*

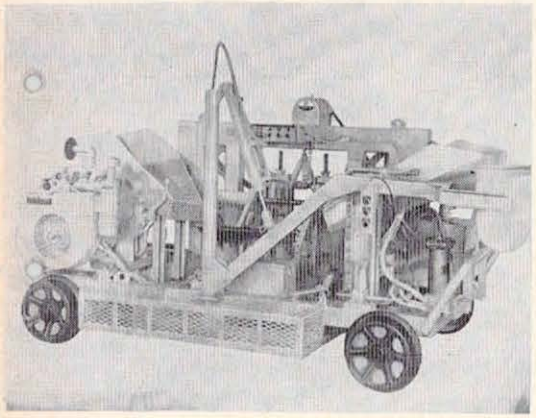
Rotary brush cutter (RA-4)

A rotary brush cutter is available for mounting on railway or off-track equipment, using a prime mover for propulsion. The 5-foot diameter cutters, with swing-away high-carbon steel blades, are mounted at the ends of hydraulically operated folding arms that permit cutting from the rail out to a total span of 35 feet 8 inches. The cutter heads are equipped with a stump jumper and can be tilted 180 deg. on the arms.

The brush cutter is said to cut all weeds, brush and trees up to 9 inches in diameter, with excellent performance in continuous cutting of trees and brush up to 4 inches in diameter.

Each cutter is operated by a gear-type hydraulic motor that is directly coupled to a heavy-duty spindle. They receive their power from a gear-type double pump, rated at 38 gpm at 2000 psi at 2200 rpm, directly connected to a GM Model 3-53 diesel engine.

A larger self-propelled model with 7-foot diameter cutters and a 50-foot total cutting span is available mounted on the Tamper Kal-Trac heavy-duty switcher. *Tamper, Inc.*



Setter applicator (RA-5)

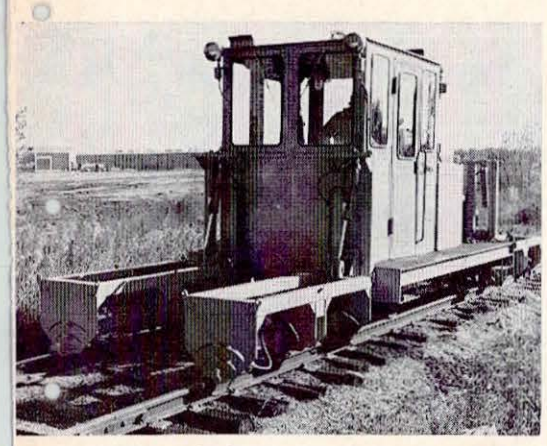
A self-propelled machine, designated the "Anchor-Matic," has been introduced for setting and applying rail anchors semi-automatically to the rails. It is equipped with a hydraulic push-button controlled loading crane that lifts the anchors for distribution into two large hoppers on the machine. The operator removes the anchors from the hoppers, as required, drops them on pins provided for automatic pick-up by setting arms and presses a start button.

The machine then goes through a cycle of setting the anchors on the rail flange to box or single-anchor a tie, squeezing and holding them in proper position while the anchors are applied.

The Anchor-Matic has an automatic indexing feature for box-anchoring every tie or every other tie, as selected. It is powered by a 30-hp Wisconsin engine and is propelled at a maximum speed of 15 mph.

It is equipped with a hydraulic turntable jack for changing rails.

The machine has a separate oil reservoir, a return-line filter and a gas tank large enough for 8-hr operation. *Racine Hydraluic Division.*



Rail grinder (RA-6)

Controlling rail-surface corrugations, rail-end batter and other rail-surface problems can be accomplished with a minimum of manpower and cost by suing a new machine designated the Mannix Rail Grinder. The new machine is self-propelled and travels up to 19 miles per hour, with working speeds ranging from zero to 3 miles per hour in either direction. A total of 16 electrically-driven grinding wheels are set up in pairs.

Each pair is adjustable for position on the rail ball to conform with a section profile.

Hydraulic power raises and lowers the grinding heads, which are carried vertically when traveling. This power also provides instant control when encountering switches, frogs, crossovers and other obstacles. Control valves on the machine are within easy reach of the operator.

Hydraulic brakes, fully enclosed heated cab, wind-shield wipers, rotation becon lights, horn and fire extinguishers are provided for all-weather operation and maximum safety. *Mannix Maintenance of Way Division.*

Brushcutter arms (RA-7)

Longer, more rigid cutting booms have been introduced to the RMC line of brushcutters. The new machines cut a 12% wider swath, extending up to 28 feet from each side of the track.

The new design features stronger, lighter non-telescoping booms which are cable suspended. Construction still includes a 7-foot diameter cutting head on each boom, swivel-mounted to adjust to uneven slopes. *Railway Maintenance Corp.*

RAILWAY AGE

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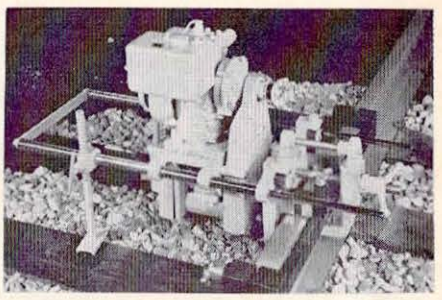

Rail drill (RA-8)

Model "AP" portable rail drill has been introduced with automatic drill-bit feed and attachments for precision drilling. A Vee-type clamping arrangement holds the machine tightly against the rail head. Solid steel blocks, which can be rotated to four positions for various rail sizes, accurately locate the drill centers vertically. *Racine Hydraulics.*

10 new ways to fly from Cleveland

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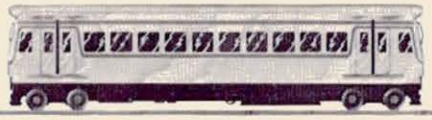
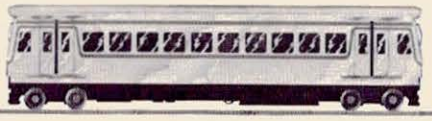
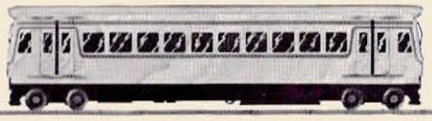
3. 

4. 

5. 

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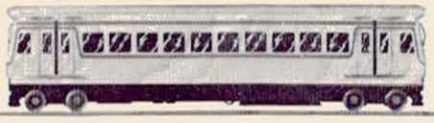
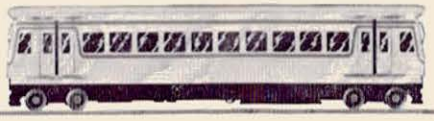
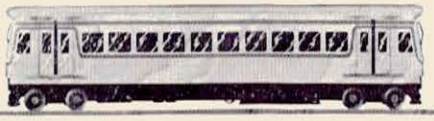
8. 

9. 

10. 

Cleveland's flyers have gotten a high-speed start for the past several months. Nickel stainless steel cars speed them from downtown to the airport in 22 minutes.

Now the Cleveland Transit System is buying ten more of these lightweight, corrosion-resistant cars from Pullman Standard.

These strong, safe cars will make it even easier and faster to get in and out of Cleveland. If your hometown's ready to fly the Cleveland way, write to Department RA-370 for our brochure, "Nickel Stainless Steel —The Modern Material for Modern Transit." The International Nickel Company, Inc., 67 Wall Street, New York, N.Y. 10005. In Canada, The International Nickel Company of Canada, Limited, P.O. Box 44, Toronto-Dominion Centre, Toronto 111, Ontario.

INTERNATIONAL NICKEL

Circle 14 on coupon page 43

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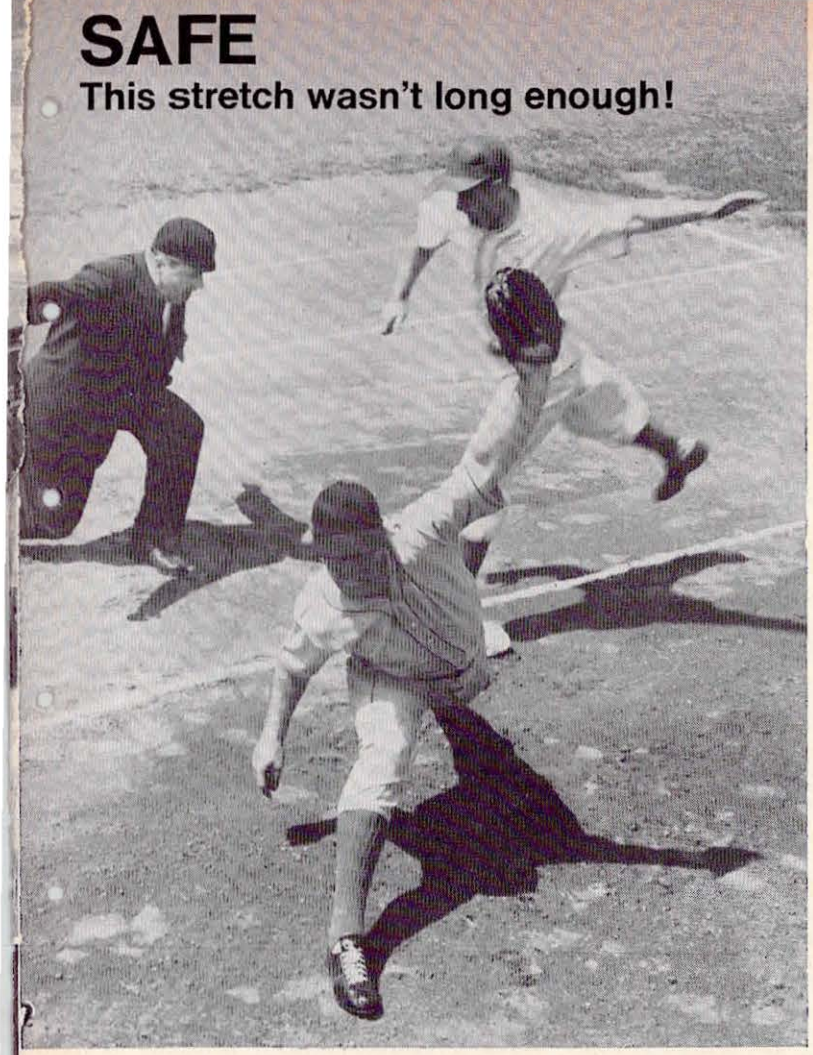
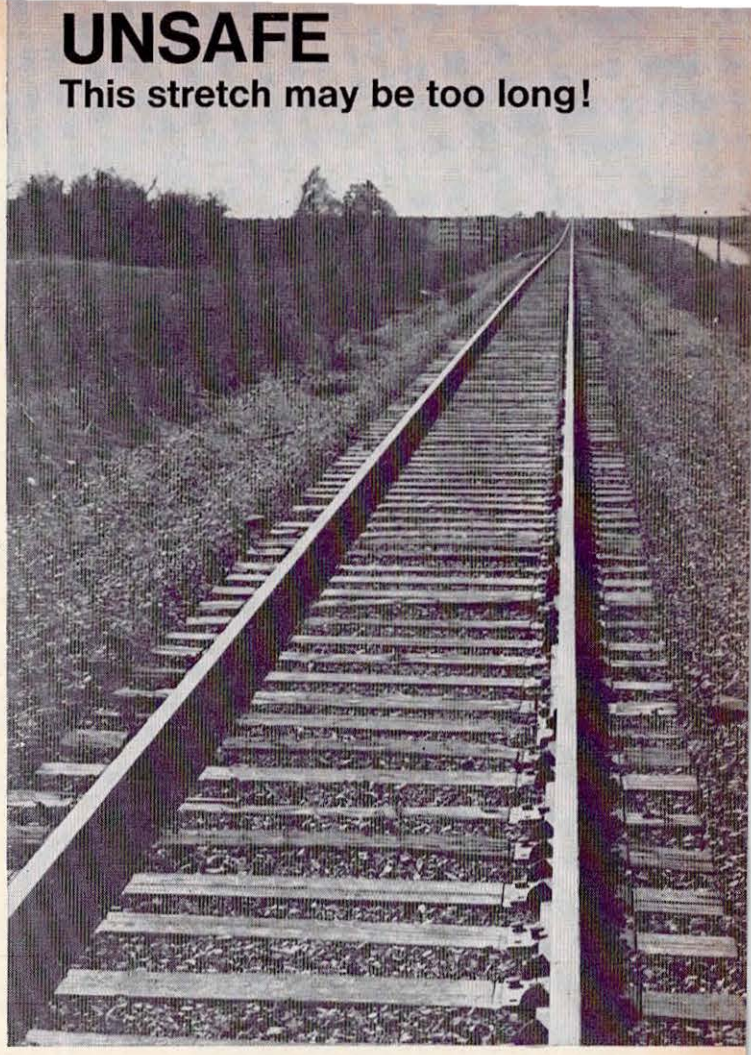


UNSAFE
This stretch may be too long!



Our new rail-mounted SERVOSAFE® Hot Box Detective™ prevents axle burn-offs and derailments.

It's a good thing to have on your railroad.

But, for safety's sake, don't stretch a good thing!

Do you have long stretches of track without SERVOSAFE protection?

Recent studies have revealed that such factors as heavier car loadings, faster train speeds and greater accelerations have combined to increase the incidence of overheated journal boxes. This has prompted many railroads to review their spacing of hot box detectors. Up to now, the average spacing has been 25 to 30 miles apart along line-of-road. Under today's conditions, however, a hot box can develop in less than 25 miles and cause a derailment *between* detectors.

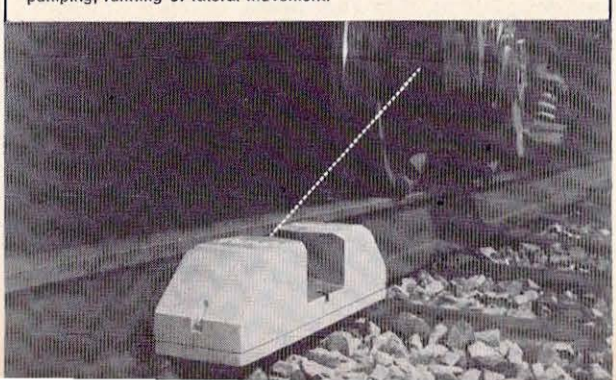
One solution becomes self-evident: closer spacing of hot box detectors for more protection. A SERVOSAFE system will not prevent a hot box—but it will detect, locate and warn of a hot box before the condition worsens into a dangerous, costly axle burn-off and derailment!

Will it cost you more to get this additional SERVOSAFE protection? Not really. Here are some reasons why not:

Our new Model 8808 SERVOSAFE system features patented rail-mounted scanners and solid state electronic data processing for the fastest, most precise detection of hot boxes. It allows remedial action to be taken *before* a failure occurs, and helps cut down the high costs of major salvage or replacement. The cost of installation and maintenance is appreciably reduced by eliminating the need for concrete foundations, special ties and expensive roadbed preparation. The rail-mounted scanner can be easily removed for maintenance or relocation. Finally, compare the cost of a SERVOSAFE with the $200,000 involved in just one derailment that could be prevented.

That's why most prudent, progressive railroad managements agree when we say, "More SERVOSAFE protection isn't costly—*lack of it is!*"

Model 8808 SERVOSAFE Hot Box Detective Rail-mounted scanner "looks" at journal bearing behind truck frame with a vertical, close-in target scan for greater uniformity and accuracy. Scanner is securely clamped to the rail (no drilling required). Accuracy is not affected by rail pumping, running or lateral movement.



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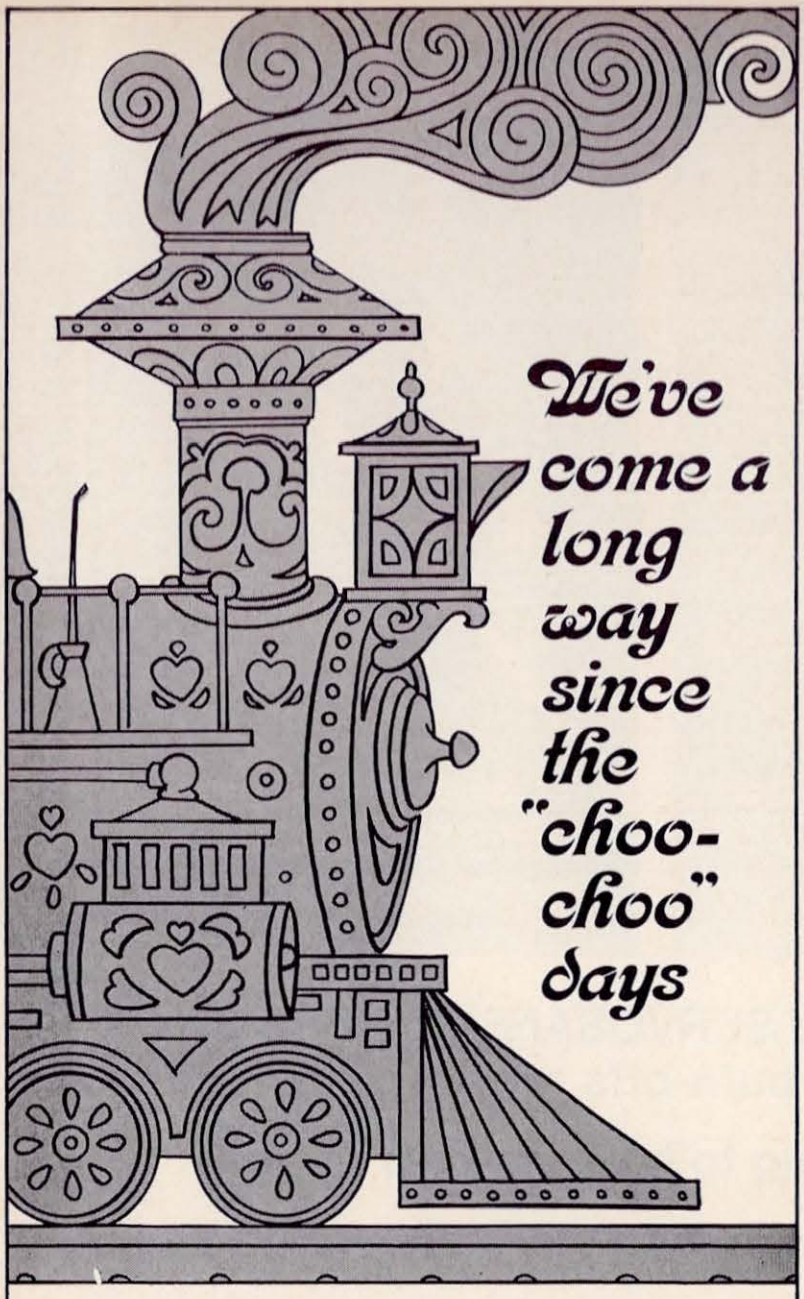
Since 1957, more than 1,000 SERVOSAFE Hot Box Detective systems have been put into service on 54 of the world's major railroads, and have compiled an unequaled record of safety improvement and cost reduction.

MEMBER RPI

Circle 38 on coupon page 43



The little red caboose that jiggled along on its journey was all right in its time. But times have changed. Train lengths have changed. Speeds have changed. Safety standards and crew-comfort demands have changed. Maybe that's why INTERNATIONAL CABOOSES are in operation on 90% of U. S. railroads today.

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Circle 15 on coupon page 43

Calendar

Based on available information, Railway Age has prepared the following list of organizations giving names and addresses of secretaries and, where available, places and dates of next or regular meetings.

AIR BRAKE ASSOCIATION.—W. T. Jados, 3527 Wisconsin Ave., Berwyn, Ill. 60402. Sept. 14-16, Sherman House, Chicago.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—W. B. Paul, Seaboard Coast Line, P.O. Box 1620, Richmond, Va. 23213. May 18-20, Antlers Plaza Hotel, Colorado Springs.

AMERICAN ASSOCIATION OF PASSENGER RATE MEN.—R. F. Domanski, Room 436, Union Station, Chicago, 60606. June 25-27, Flying Carpet Motor Inn, Rosemont, Ill.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—R. C. Buckingham, P. O. Box 1167, Evanston, Ill. 60204. Sept. 20-23, Pheasant Run, St. Charles, Ill.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Mrs. Ruth Weggeberg 201 W. Harrison St., Chicago. 60607. June 23-25, La Salle Hotel, Chicago.

AMERICAN COUNCIL OF RAILROAD WOMEN.—Miss M. E. Perkins, C&O/B&O, Civic Plaza Bldg., Baltimore, 21201. Apr. 18-19, Hilton Hotel, St. Paul.

AMERICAN RAILROAD TRUCK LINES ASSOCIATION.—W. A. Noll, Missouri Pacific Truck Lines, Inc., 210 N. 13 St., St. Louis, 63103. May 18-20, New Tower Hotel Courts, Omaha.

AMERICAN RAILWAY BRIDGE & BUILDING ASSOCIATION.—Mrs. Ruth Weggeberg, 201 W. Harrison St., Chicago, 60607. Sept. 28-30, Sherman House, Chicago.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—P. Blanchet, Canadian National, P.O. Box 8100, Montreal 3, Que. May 24-27, Cherry Hill Inn, Cherry Hill, N.J.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division—E. W. Hodgkins, Exec. Manager, 59 E. Van Buren St., Chicago, 60605. Mar. 16-18, Palmer House, Chicago.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. R. Morrell, 2000 Massachusetts Ave., N. W. Washington, D.C., 20036. Sept. 21-23, Stauffers, St. Louis.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—O. B. Schier II, 345 E. 47th St., New York, 10017. Nov. 29-Dec. 3, New York Hilton Hotel, New York.

Railroad Division.—E. P. Kondra, Ellcon-National, Inc., 30 King Road, Totowa Borough, N.J. 07512. Joint Conference with IEEE Land Transportation Comm. Apr. 7-8, Sheraton Hotel, Philadelphia.

AMERICAN TRANSIT ASSOCIATION.—Robert Sloan, Exec. Vice-Pres., 815 Connecticut Ave., N.W., Washington, D.C. 20006. Sept. 20-24, Sheraton-Boston Hotel, Boston.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—P. E. Kenney, Penn Central, Sunnyside Yards, Long Island City, N.Y. 11101. Oct. 19-22, Royal Sonesta Hotel, New Orleans.

ASSOCIATION OF AMERICAN RAILROADS:
Washington, D.C. 20036—American Railroads Bldg., 1920 L St., N.W.
Chicago, Ill. 60605—59 East Van Buren St.
R. E. Keefer, Exec. Asst. to Pres., and Secy.-Treas., Washington, D.C.
General Claims Division.—Julian A. Sherman, Asst. Dir (in charge), Washington, D.C. May 5-7, Chase Park Plaza, St. Louis.
Operations and Maintenance Department.—R. R. Manion, Vice-Pres., Washington, D.C.
Operating-Transportation Division.—C.A. Lauby, Exec. Vice-Chairman, Washington, D.C. W. E. Todd, Staff Secy., Washington, D.C.
Communication and Signal Section.—P. D. Bonin, Washington, D.C. Sept. 15-17, Hilton Hotel, San Francisco.
Safety Section.—W. E. Todd, Staff Secy. June 15-17, St. Francis Hotel, San Francisco.
Medical Section—June 8-10, Jasper Park Lodge, Jasper, Alberta, Can.
Engineering Division.—E. W. Hodgkins, Exec. Vice-Chairman, Chicago. Mar. 16-18, Palmer House, Chicago.
Mechanical Division.—C. L. Davidson, Chicago, June 18-19, Hilton Hotel, San Francisco.
Freight Claim Division.—J. C. Hindman, Chi-

DOT backs rails on cost standards

Statement filed with ICC says concept of fully-allocated costs is outdated in determining inherent advantage of mode

The Transportation Department has entered the Interstate Commerce Commission's probe of carrier cost cost advantages on the side of the railroads.

Advantages of specific modes in competitive rate cases, DOT says, should no longer be determined according to fully-allocated costs, but rather, on the basis of avoidable costs. Avoidable costs would now meet the proper interpretation of inherent advantage, just as fully-allocated costs met an interpretation that now is out-dated, says a statement filed in ICC docket 34013 (Cost Standards in Intermodal Rate Proceedings).

● **Marginal cost principle.** The statement was drafted by Paul W. Cherington, former DOT assistant secretary for policy and international affairs. The avoidable-cost approach, Cherington says, would result from applying the prinicple of marginal cost pricing in cases involving competitive rates of different modes.

Economists, Cherington adds, "generally accept marginal-cost rate-making as the first step toward fostering sound economic conditions, because it would maximize profitable output and tend to reduce average costs."

The principle of marginal costs, Cherington says, is a fundamental concept in economics "relating prices to costs in a market for goods and services. The principle holds that under competitive conditions the cost of producing an additional quantity of output will govern the price at which that output will be sold. If the quantity cannot fetch a price equal to the marginal cost of producing it, it will not be produced, for economic incentive is absent."

That principle, approximated by the avoidable-cost approach, should support future rate making decisions, Cherington says: "I submit to the Commission that so-called fully-distributed costs have served their purpose as a tool for preserving inherent advantage in the sense of protecting infant industries.

"They should now be subordinated to marginal-cost principles as a tool for preserving inherent advantage in its originaly intended sense of passing on efficiency benefits to shippers. So-called full costs are as much an artificial abstraction impossible to quantify as the now-defunct rate differentials and should be eliminated as the differentials were."

● **Rails in basic agreement.** "We think the DOT statement is pretty good," says Dr. Burton N. Behling, AAR vice president-economics and finance. "It's essentially our position." There may be a distinction between out-of-pocket costs, a term commonly heard in rail circles, and DOT's avoidable cost. But together, Behling says, these two terms stand as one against fully-allocated costs, and in opposition to fully-allocated costs is where rails and DOT are in agreement.

● **Return to early interpretation.** Cherington says the Commission now can return to the early interpretation of preserving an inherent advantage: "to recognize and preserve the ability of a carrier (or mode) to offer lower rates because of greater efficiencies."

The Commission, however, followed an interpretation of inherent advantage that presumed the need to protect the "continued existence of water and motor carriers in competitive battles with railroads." And that led, Cherington says, to adoption of fully-allocated costs of the low-cost carrier as the basis for determining inherent advantages.

● **Ingot Molds case marks end?** Although the narrow interpretation of inherent advantage prevailed as recently as the Ingot Molds case (1965-68), that same case should mark the end of the narrow interpretation, Cherington says.

In Ingot Molds, rails lost their fight for consideration of out-of-pocket costs in rate competition with barge-truck service for moving molds from Pittsburgh to Kentucky.

The ICC ruling, upheld by the Supreme Court, was that "inherent cost advantage under the national transportation policy reasonably could not embrace a concept that would impair the ability of a carrier not only to compete but to exist."

ICC's application of a "protective" interpretation, Cherington says, was by that time an exception because such an interpretation was "increasingly being abandoned." Here, Cherington says, ICC wasn't saying that out-of-pocket was economically unsound *per se*.

Rather, ICC acted on the belief that economic conditions in transportation were "still such as to require the Commission to continue the policy of protectionism," Cherington says.

● **Modes unharmed by out-of-pocket.** The ICC decision in Ingot Molds had to be an exception, Cherington says, because there is ample data to show that in the 1960s, trucks and barges "have not only not been harmed by the post-1959 pricing practices of the railroads, but have flourished in the face of them."

The situation of the 1960s was also colored by: (1) changed pricing practices by rails leading to lower revenue per ton; (2) a productivity "takeoff" in the barge industry resulting in lower unit-production costs and higher gross margin; and (3) steady productivity gains for motor carriers resulting in stablized unit-production costs and higher rate of return on equity.

● **Marginal costs best way.** In view of the comparative health of barge and truck lines, the fulfillment of the national transportation policy now can be pursued by the best economic means, rates based on true marginal costs, Cherington says. Such rates would: (1) keep available a mode's intrinsic technological (inherent) advantage; (2) promote service that is safe for employees and for the environment, adequate for transport requirements, economical in use of resources, and capable of maximum output with lowest input; (3) make maximum use of facilities while providing for modernization; (4) avoid price differentiation based solely upon a monopoly position; and avoid pricing practices designed to ruin competitors.

All those elements would be carefully examined by the Commission annually, Cherington says. The doctrine of marginal costing would prevail as long as carriers used it only for rates that improve their net income position and do not cause destructive competition nor loss of "technologically unique service."

Cherington says that the doctrine of protectionism should "only come to the fore when comparisons suggest that a mode such as barge lines with low and declining average production costs is in danger of becoming so unprofitable as to go out of business. This, of course, can be determined by examination in the year-to-year trend in the spread between expenses and revenue, the gross margin. In such situations, the 'transcendent public need' doctrine would come into play.

"However, it should be noted that such does not appear to be a common situation at the present time." ■

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cago. May 19-21, Chase Park Plaza, St. Louis.
Purchases and Materials Management Division.—J. H. Bean, Exec. Vice-Chairman, Chicago. Sept. 16-18, Sherman House, Chicago.
Management Systems Department.—R. B. Curry, Vice-Pres., Washington, D.C.
Data Systems Division.—R. A. Petrash, Exec. Dir.; V. G. Rymarowicz, Secy., Washington, D.C. Sept. 28-30, Regency-Hyatt House, Atlanta.
Economics and Finance Department.—Burton N. Behling, Vice-President, Washington, D.C.
Accounting Division.—Philip A. Lyon, Washington, D.C. May 25-27, Roosevelt Hotel, New Orleans.
Treasury Division.—Philip A. Lyon, Washington, D.C. Sept. 7-9, The Greenbriar, White Sulphur Springs, W. Va.

ASSOCIATION OF INTERSTATE COMMERCE COMMISSION PRACTITIONERS.—Mrs. Norma L. Iser, Exec. Secy., 1112 ICC Bldg., Washington, D.C. 20423. June 17-19, Executive Inn, Louisville.

ASSOCIATION OF RAILROAD ADVERTISING MANAGERS.—J. D. Singer, Exec. Secy., Chesapeake & Ohio, 3800 Terminal Tower, Cleveland, 44101. May 24-27, Sir Francis Drake Hotel, San Francisco.

ASSOCIATION OF RAILROAD EDITORS.—A. C. Hanson, Duluth, Missabe & Iron Range, 500 Wolvin Bldg., Duluth, Minn. 55802. Sept. 30-Oct. 2. Le Chateau Champlain, Montreal.

CANADIAN RAILWAY CLUB.—W. J. Cadogan, P.O. Box 162, Montreal 101, Que. Regular meetings, second Monday of each month except Feb., June, July, Aug. and Oct. Oct. meeting on first Monday, Queen Elizabeth Hotel, Montreal.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—E. S. Schloessman, 103 Cherokee St., St. Louis 63118. Regular meetings, third Tuesday of each month except June, July and Aug. Fred Harvey's Restaurant, 2nd floor, Union Station, St. Louis.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—E. W. Gebhardt, 297 Highland Ave., Elmhurst, Ill. 60126. Sept. 14-16, Sherman House, Chicago.

CAR FOREMAN'S ASSOCIATION OF OMAHA, COUNCIL BLUFFS AND SOUTH OMAHA INTERCHANGE.—C. G. Poetzel, 2111 Avenue I, Council Bluffs, Ia. 51501. Regular meetings, second Tuesday of each month except July and Aug. Caniglia's, South Seventh St., Omaha.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—J. J. Sacheck, 4841 North Nagle Ave., Chicago, 60630. Regular meetings, second Monday of each month except June, July, Aug. and Oct., LaSalle Hotel.

CENTRAL RAILWAY CLUB OF BUFFALO.—M. A. Redding, Exec. Secy., 214 Kenmore Ave., Buffalo, 14223. Regular meetings, second Thursday of each month except May, June, July and Aug., Cordon Bleu.

CHICAGO RAILROAD DIESEL CLUB.—E. C. Fosdick, 225 Illinois Blvd., Hoffman Estates, Ill. 60172. Regular meetings, first Monday of each month except July, Aug. and Sept., Hartford Bldg., 365 West Monroe St., 5:30 p.m.

CHICAGO RAILROADS CAR ACCOUNTING OFFICERS ASSOCIATION.—K. H. Lyrla, Jr. (Chairman) Illinois Central, 6327 S. Dorchester Ave., Chicago, 60637. Regular meetings, last Wednesday of each month except July and Aug., Traffic Club, Palmer House, 12 noon.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—T. F. Schackel, 149 Fawn Lane, Haverford, Pa. 19041. May 13-15, Chase Park Plaza, St. Louis.

EASTERN CAR FOREMAN'S ASSOCIATION.—J. D. O'Brien, 18 Parkerson Rd., Edison, N.J. 08817. Regular meetings, third Tuesday of Jan., Feb., Mar., Apr., May, Oct. and Nov. McAnn's Restaurant, 465 Lexington Ave., New York.

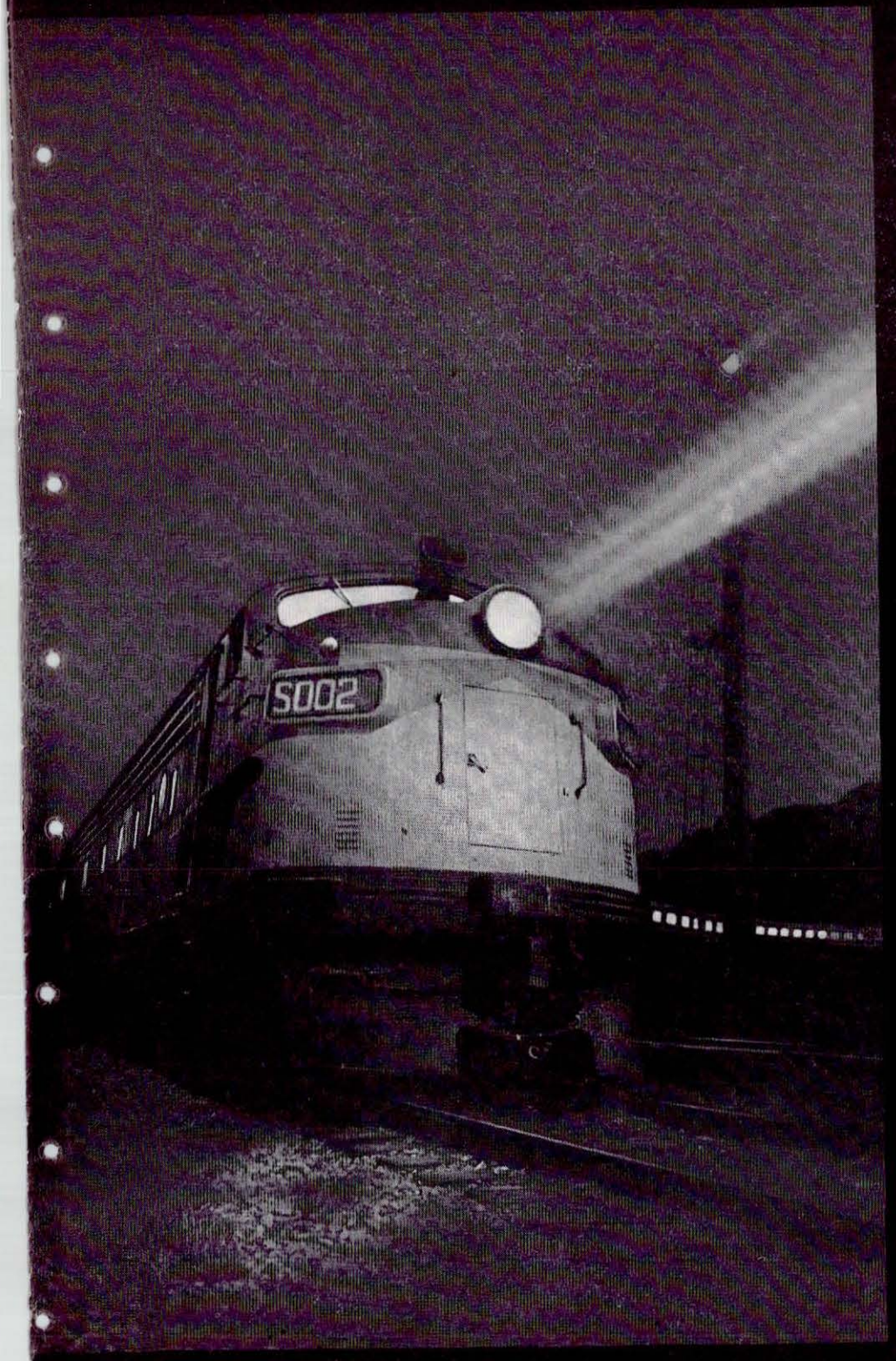
GREAT LAKES RAILWAY CLUB.— R. J. Heller, 577 E. 152nd St., Cleveland, 44110. Regular meetings second Wednesday of Sept., Nov., Jan., Mar. and May, Pick-Carter Hotel, Cleveland. Social hour 6:30 p.m., dinner 7:30.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS.—Donald G. Fink, Gen. Mgr., 345 E. 47th St., New York 10017. Mar. 23-26, New York Hilton Hotel, New York.

COMMITTEE ON LAND TRANSPORTATION.—Robert B. Morris (Chairman), Westinghouse Air Brake Div., WABCO, Wilmerding, Pa. 15148. Joint conference with ASME Railroad Division, Apr. 7-8, Sheraton Hotel, Philadelphia.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker St., North Little Rock, Ark. 72114. Sept. 14-16, Sherman House, Chicago. (Continued on p. 50)

Switch



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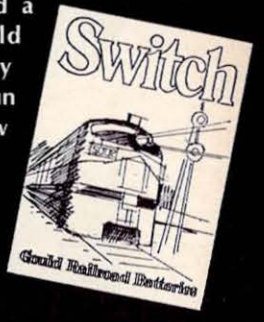
For absolute reliability in battery power, Switch to Gould Railroad Batteries. Write for more information and a free brochure. Gould Inc., Industrial Battery Division, 467 L Calhoun Street, Trenton, New Jersey 08607.



GOULD INC.

INDUSTRIAL BATTERY DIVISION

Motive Power Batteries • Railroad Batteries • Stationary Batteries • Chargers • Uninterrupted Power Systems

MAINTENANCE OF WAY CLUB OF CHICAGO.—J. S. Kopec, Chicago, Milwaukee, St. Paul & Pacific, Room 898, Union Station, Chicago 60606. Regular meetings, Oct.-Apr., Midland Hotel.

METROPOLITAN RAILWAY CLUB OF NEW YORK.—Fred Osthoff, Railway Age, 30 Church St., New York, 10007. Apr. 2 and Sept. 24 meetings, Penn Garden Hotel, New York; May 21 meeting, Engineers' Club, Philadelphia. Outing, June 18, Bamm Hollow Country Club, Redbank, N. J.

MILITARY RAILWAY SERVICE VETERANS.—R. E. Godley, P.O. Box 1285, Vicksburg, Miss. 39180. Sept. 18-20, Hilton Hotel, Buffalo.

MISSISSIPPI VALLEY MAINTENANCE OF WAY CLUB.—J. B. Reynolds, Missouri Pacific, Room 1200 Missouri Pacific Bldg., St. Louis, 63103. Regular meetings, second Monday of each month, Sept. through May, Louis IX Room, Harvey's Restaurant, Union Station, St. Louis.

NATIONAL ASSOCIATION OF RAILWAY TAX COMMISSIONERS.—D. L. Cothern, Room 305, 135 E. 11th Place, Chicago 60605. Nov. 17-18, Sheraton Ritz, Minneapolis.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS.—Everette Kreeger, ICC Bldg., P.O. Box 684, Washington, D.C. 20044. Nov. 16-19, International Hotel, Las Vegas.

NATIONAL DEFENSE TRANSPORTATION ASSOCIATION.—Helen J. Amidon, 1612 K St., N.W. Washington, D.C. 20006. Sept. 20-23, Hilton Hotel, San Francisco

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—L. J. Dorr, Exec. Vice-pres., Suite 909, 711 14th St., N.W. Washington, D.C. 20005. Nov. 18-20, Palmer House, Chicago.

NATIONAL RAILROAD LUBRICATION COUNCIL.—Herman C. Brandt, 2824 McCully Rd., Allison Park, Pa. 15101. May 7, Sheraton Chicago Hotel, Chicago.

NATIONAL RAILROAD PIGGYBACK ASSOCIATION.—H. S. Ownley, 1007 La Salle St. Station, Chicago 60605. Apr. 16-17, Jack Tarr Hotel, San Francisco.

NATIONAL SAFETY COUNCIL.—F. J. Parker, Staff Representative, 425 N. Michigan Ave., Chicago, 60611. Railroad Section annual meeting, Oct. 27-29, La Salle Hotel, Chicago, during National Safety Congress.

NEW ENGLAND RAILROAD CLUB.—Wm. M. McCombs, P.O. Box 198-A, Pembroke, Mass. 02359. Regular meetings second Tuesday in Jan. Mar., May and Nov. Sheraton-Plaza Hotel, Boston. Dinner 6:30 p.m. Annual meeting, election, banquet and entertainment second Thursday in May.

NEW YORK RAILROAD CLUB.—F. R. McCarthy, Exec. Secy., 466 Lexington Ave., New York, 10017. Apr. 9 and Oct. 22 meetings, Windsor Ballroom, Hotel Commodore, New York. Reception, 5:30 p.m.; dinner, 6:30; meeting 7:45. Annual meeting and dinner, Dec. 3, Grand Ballroom, Hotel Commodore.

NORTHWEST CARMEN'S ASSOCIATION.—N. J. Maglich, Minnesota Transfer Ry., 508 N. Cleveland Ave., St. Paul, 55114. Regular meetings, first Monday of each month except June, July and Aug., Y.M.C.A., Midway Branch, 1761 University Ave, St. Paul.

NORTHWEST MAINTENANCE OF WAY CLUB.—E. L. Roland, 2 Milwaukee Station, Minneapolis 55401. Regular meetings third Thursday of each month, Oct. through Mar., Prom Center-Arizona Room, 1190 University Ave., St. Paul. Social hour, 5:50 p.m.; dinner, 6:30.

PACIFIC RAILWAY CLUB.—K. J. MacGregor, Southern Pacific, 65 Market St., San Francisco, 94105. Meetings in alternate months in San Francisco and Los Angeles. One meeting a year in Sacramento area.

RAILROAD PERSONNEL ASSOCIATION.—J. L. Quarles, Jr. (President) C&O/B&O, 2 No. Charles St., Baltimore, 21201. Oct. 6-9, Key Biscayne Hotel, Miami.

RAILROAD PUBLIC RELATIONS ASSOCIATION.—J. N. Ragsdale, Association of American Railroads, American Railroads Bldg., Washington, D. C. 20036. June 17-20, Hershey, Pa.

RAILWAY CLUB OF PITTSBURGH.—G. E. Morrison 2710 Koppers Bldg., Pittsburgh, 15219. Regular meetings, third Thursday of each month except June, July, Aug., Sept. and Dec. Wm. Penn Hotel. Dinner, 6:30 p.m.; meeting, 7:30.

RAILWAY ENGINEERING-MAINTENANCE SUPPLIERS ASSOCIATION.—L. D. McGuan, Exec. Secy., 332 S. Michigan Ave., Chicago 60604.

RAILWAY FUEL AND OPERATING OFFICERS' ASSOCIATION.—L. H. Peters, 10414 S. Wood St., Chicago 60643. Sept. 14-16, Sherman House, Chicago.

RAILWAY PROGRESS INSTITUTE.—N. A. Lennartson, Pres., 1140 Connecticut Ave., N.W., Washington, D.C. 20036. Annual dinner and meeting, Nov. 5, New York Hilton Hotel, New York.

RAILWAY SIGNAL AND COMMUNICATIONS SUPPLIERS' ASSOCIATION.—A. H. Smith, Exec. Dir & Secy., 170 Broadway, New York, 10038. Exhibit, Sept. 15-17, Hilton Hotel, San Francisco.

RAILWAY SYSTEMS AND MANAGEMENT ASSOCIATION.—G. C. Vietsch, Pres., 163 E. Walton St., Chicago, 60611.

RAILWAY TIE ASSOCIATION.—W. D. Labaugh, Room 307, 5 Colt St., Paterson, N.J. 07501. Oct. 21-23, Royal Sonesta Hotel, New Orleans.

ROADMASTERS AND MAINTENANCE OF WAY ASSOCIATION, Mrs. Ruth Weggeberg, 201 W. Harrison St., Chicago 60607. Sept. 28-30, Sherman House, Chicago.

ST. LOUIS RAILROAD DIESEL CLUB.—F. C. Whitlock, 6207 W. Washington, Belleville, Ill. 62223. Regular meetings, first Monday in Feb., Apr., May and Oct. Fred Harvey's King Louis IX Room, Union Station, St. Louis

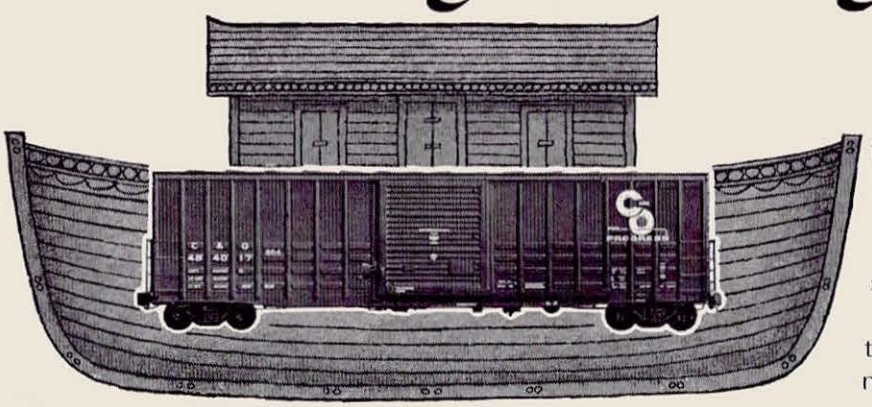
SOUTHERN & SOUTHWESTERN RAILWAY CLUB.—H. W. Brewer, P.O. Box 7211, Jacksonville, Fla. 32210. Regular meetings, third Thursday, in Jan., Apr., June and Oct.

SOUTHWESTERN RAILWAY CLUB.—P. T. Schwarz, 6671 Myrtle St., Houston, 77017. Regular meetings, fourth Thursday in Jan. at Houston; Apr. at Little Rock, Ark.; Oct. at Ft. Worth.

TORONTO RAILWAY CLUB.—W. F. Saunders, P.O. Box 8, Terminal "A", Toronto 1, Ont. Regular meetings, fourth Monday of each month except June, July, Aug., Royal York Hotel. Annual dinner, first Saturday in December.

WESTERN RAILWAY CLUB.—Suite 339, Sherman House, Chicago, 60601. Regular meetings in Feb., Mar., Apr., May, Oct., Nov., and Dec.

30 Cubits by 8 Cubits by 6 Cubits...



. . . with rigid underframe, sliding doors and nailable steel floors. A boxcar built by Noah? No. A boxcar built by Berwick for the Chesapeake and Ohio. Today's railroads trust Berwick to build cars to meet their needs. Almost any type, length, width and to any specifications. To carry animals two by two, or freight by the ton. No matter what you're moving, Berwick can build a car to carry your load.

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All these securities having been sold, this announcement appears as a matter of record only.

New Issue

$50,000,000

General American Transportation Corporation

9% Equipment Trust Certificates due August 15, 1990

(Series 66)

Kuhn, Loeb & Co.

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February 25, 1970

This announcement appears as a matter of record only.

$10,150,000

The Kansas City Southern Railway Company

Conditional Sale Obligations due 1976-1985

This financing was arranged privately by the undersigned.

Kuhn, Loeb & Co.

February 18, 1970

People in the News

ASSOCIATION OF AMERICAN RAILROADS.—Fred A. Wallace named special representative, Freight Loss and Damage Prevention Section, Chicago. Mr. Wallace formerly served in the Prevention Department, **Miwaukee Road.**

BESSEMER & LAKE ERIE.—F. T. Westmeyer, superintendent transportation, Greenville, Pa., promoted to general superintendent transportation there.

H. D. Laird appointed supervisor labor relations, Greenville.

CANADIAN NATIONAL-GRAND TRUNK WESTERN.—Robert R. Love appointed general rates officer, and **James R. Wozniczka** named freight rates officer, both with headquarters in Chicago.

CANADIAN PACIFIC.—A. M. Stockdale appointed director salary administration, Montreal.

The Philadelphia freight and passenger sales offices of CP Rail have been relocated at 1518 Walnut Street from previous quarters in the J.F.K. Bldg., Penn Plaza.

W. J. Presley, regional manager—operation and maintenance, Eastern Region, Toronto, Ont., appointed regional manager—operation and maintenance, Prairie Region, Winnipeg, succeeding **R. C. Steele,** named regional manager—special duties, Winnipeg, reporting to the vice president.

CHESAPEAKE & OHIO. — J. Parker Donovan, regional sales manager, Southfield, Mich., retired March 1, after more than 47 years with the C&O.

CHICAGO RIVER & INDIANA. — J. A. Fraser name terminal superintenent, Chicago.

DEPARTMENT OF TRANSPORTATION.—Kenneth L. Lawson, senior engineer, **Federal Railroad Administration,** named to head the conventional rail research and technology efforts in the department. **Kenneth W. Batcheller,** assistant to chief mechanical officer, **Great Northern,** appointed chief of the FRA's Safety Programs Division, Bureau of Railroad Safety.

Theodore N. McDowell appointed director of information for DOT. Mr. McDowell was formerly general manager of news and public affairs and secretary, Evening Star Broadcastihg Co., Washington.

Robert Lee Kessler, Assistant Attorney General for the State of Colorado, appointed chief counsel, FRA.

Robert E. Redding, vice president and general counsel, **Transportation Association of America,** named a consultant on transportation facilitation matters to the Assistant Secretary of Transportation for Policy and International Affairs, DOT.

FRISCO.—E. G. Riegler, traffic representative named TOFC sales representative. **R. G. Blaine,** rate Clerk, appointed manager rates.

GREAT NORTHERN.—Curtis J. Hockaday, assistant to the vice president-pricing, named assistant vice president-pricing.

GULF, MOBILE & OHIO.—F. C. Clark appointed manager of purchases and stores, Mobile, Ala., succeeding **Claude T. Verbeck,** who retired Feb. 1, after more than 46 years with the GM&O and predecessors. **E. J. Cassidey** named purchasing agent, Mobile.

KENTUCKY & INDIANA TERMINAL.—W. E. Manning appointed chief engineer, Louisville, Ky. Mr. Manning was formerly with the **Terminal Railroad Association of St. Louis. H. T. Clark** promoted to engineer maintenance of way, succeeding **C. W. Russell,** retired.

LOUISVILLE & NASHVILLE.—Andrew R. Harkleroad, manager, service and car utilization, appointed director of a newly established system service center at Louisville. **Henry L. Brooks, Jr.,** assistant manager, service and car utilization, becomes

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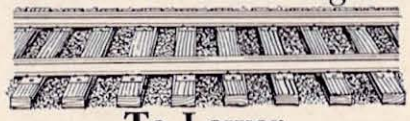

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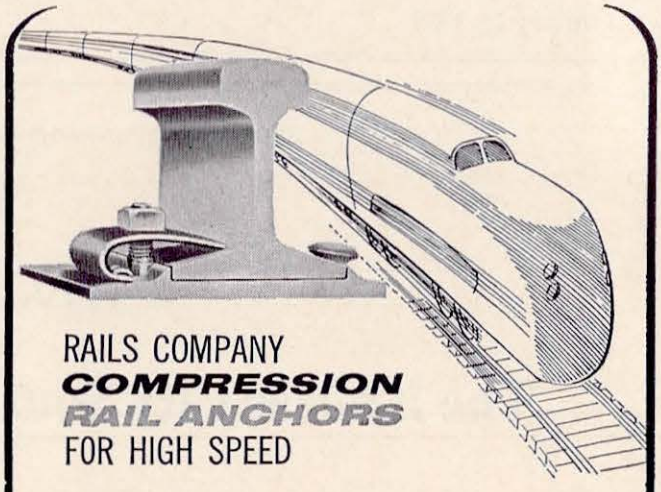

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Circle 21 on coupon page 43

assistant director of the new center. **Edgar B. Akers,** traffic representative, and **William E. Linton,** assistant to manager, service and car utilization, named assistants to director. Named to new positions in the transportation department to coordinate train operations with the new center are **G. A. Payne,** assistant superintendent, Louisville division, who becomes director, train operations; **J. D. Thomas,** assistant to trainmaster, Strawberry Yard, Louisville, and **J. D. Merritt,** assistant trainmaster, Winchester, Ky., named assistant directors, train operations. Mr. Payne's successor is **R. W. Page,** manager, car utilization.

MERIDIAN & BIGBEE.—Hal L. Davison, assistant general freight agent, appointed auditor and general freight agent, Meridian, Miss., succeeding **George M. Young,** who retired Dec. 31, after 28 years of service. **Herman E. Downs,** assistant auditor, appointed assistant general freight agent.

MISSOURI PACIFIC-TEXAS & PACIFIC.—B. E. Helvey, trainmaster, **T&P,** Longview, Tex., named assistant superintendent, **Chicago & Eastern Illinois,** Dolton (Yard Center), Ill., succeeding **L. D. Alcorn,** resigned. Mr. Helvey's successor is **C. E. Dettman,** trainmaster, **MP,** Poplar Bluff, Mo., who in turn is replaced by **R. G. Lang.**

G. S. Sines named director, information and control systems, St. Louis, **J. T. Heidenrich** appointed manager data center operation and services, **MP-T&P** and **Chicago & Eastern Illinois,** with headquarters in St. Louis. **J. R. Osman** named director profit planning, **MP-T&P-C&EI,** St. Louis. **C. A. Mennell** named manager industrial engineering, and **J. R. D'Agostino,** assistant manager industrial engineering, **MP-T&P-C&EI,** both with headquarters in St. Louis.

John J. Godfrey, claims attorney, **MP,** promoted to general attorney-claims.

R. F. Hanfeld named trainmaster, **T&P,** Odessa, Tex., succeeding **R. G. Lang,** transferred.

Earland Sandstrom, assistant traffic manager, Philadelphia, named traffic manager, Northern Region, Chicago, to succeed **Clem P. Dirckx,** appointed manager-government traffic, St. Louis (RA, Jan. 26, p. 43). Mr. Sandstrom's successor is **Milton N. La Croix,** general agent, Jacksonville, Fla. **Joseph C. Hullihan,** general agent, St. Joseph, Mo., named general freight agent, New Orleans. **Kenneth A. Klamert** transferred from Sedalia, Mo., to succeed Mr. Hullihan. **D. E. Richardson** named international sales representative, Chicago. **M. L. Hall** named manager service costing and profitability, and **C. J. Kleinsorge** appointed assistant to manager service costing and profitability, both with headquarters in St Louis. Also at St. Louis, **Charles D. Bowman** named manager economic research, and **W. D. Kirkpatrick,** assistant to manager economic research.

MONON.—John V. Benson has joined the sales department as district sales manager, Jacksonville, Fla., succeeding the late **A. L. Bone,** who was district sales manager at Orlando, Fla.

NORFOLK & WESTERN.—R. K. Hubbard, general passenger sales manager, retired Feb. 1, after more than 49 years with the N&W.

William F. Henry, vice president–traffic, **Akron, Canton & Youngstown,** an N&W subsidiary, promoted to assistant vice president–sales, N&W, Cleveland. **Robert J. Harkey,** assistant to vice president–merchandise traffic, Roanoke, promoted to regional manager–sales, St. Louis. **William H. Taylor,** division sales manager, Canton, Ohio, appointed general traffic manager, AC&Y, Akron.

Allen B. Childress, trainmaster, St. Louis Terminal, named trainmaster, Decatur Division, Decatur, Ill. **James T. Quarles,** assistant trainmaster, Moberly, Mo., succeeds Mr. Childress as trainmaster, St. Louis Terminal.

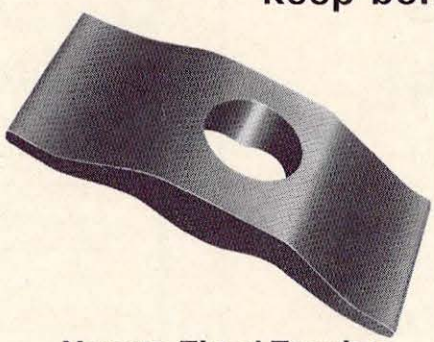
NORFOLK SOUTHERN.—Joseph L. McGhee, regional sales manager, Richmond, Va., retired Jan. 31, after 45 years of NS service.

PENN CENTRAL.—Edward G. Kreyling Jr., vice president–traffic, **Illinois Central,** Chicago, named executive vice president in charge of **Penn Central's** traffic department, Philadelphia, succeeding **Henry W. Large,** who will reach mandatory retire-

Tight Bolts cost less than Loose Bolts

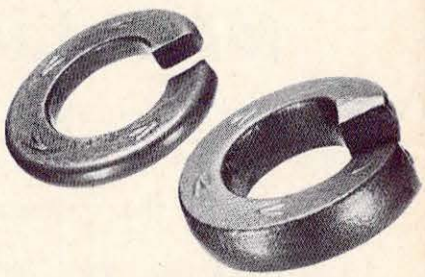
That's right. Loose bolts add up to costly, time-consuming, and just plain unnecessary repairs. Woodings eliminates these problems through rail fasteners that hold, and hold, and hold.

These Woodings Rail Fasteners keep bolts *TIGHT*



Verona Fixed Tension TRIFLEX SPRINGS

. . . providing equal and proper tension in all track bolts. The Verona Triflex Spring is the only practical device available to keep track bolts tight with equal calibrated tension in all bolts.



Verona *"Special"* ALLOY NUT LOCKS

. . . with the wide reactive range needed to keep track bolts tight. This reduces angle bar wear and rail batter, eliminates periodic bolt tightening. Available in five convenient sizes.

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E. G. Kreyling, Jr.
PC

Robert G. Flannery
PC

James A. McDonald
PC

James M. Loconto
PC

Warren R. Henry
Santa Fe

R. W. Harper
Santa Fe

ment age on July 5. Mr. Large will conduct special studies for the president. Mr Kreyling will join PC March 15.

Robert G. Flannery, vice president—operation, Philadelphia, appointed executive vice president and will continue in charge of the operating departments. He will also assume responsibility for technical research.

James A. McDonald, vice president—executive assistant to president, promoted to executive vice president. Reporting to Mr. McDonald: the vice president—purchases and materials; vice president—management planning and development; vice president—mail and TrailVan services; assistant vice president—systems development, and director—cost and profit analysis.

Robert W. Minor, senior vice president, named senior vice president—legal and public affairs, reporting to the chairman. **A. Paul Funkhouser,** vice president—coal and ore traffic, promoted to senior vice president—passenger service. **Samuel H. Hellenbrand,** vice president—industrial development and real estate, appointed vice president — industrial development, real estate and taxes. He assumes responsibility for the tax programs, formerly handled by **Theodore K. Warner, Jr.,** vice president—corporate administration, who will retire.

David E. Smucker, executive vice president, who has been handling special assignments for the chairman, retired March 1.

Charles R. Lee has joined the PC financial department, Philadelphia, as assistant treasurer—corporate investments. He was formerly manager of business research, **U.S. Steel Corp.**

The PC's new management organization which took over operation of the three commuter lines operating in and out of Grand Central Terminal, New York, will be known as the Metropolitan Region. **James M. Loconto** named general manager—operations. **Robert K. Pattison** will be general superintendent — transportation and oversee train operations. **William Glavin,** chief regional engineer, will be in direct charge of maintenance of right-of-way, signals, buildings and communications. **Charles W. Cole,** as regional mechanical superintendent, will be in charge of maintenance of cars and locomotives. Mr. Loconto was formerly assistant vice president—passenger services, Philadelphia.

Charles A. Goodwin, director of suburban service, New Haven, Conn., appointed director of passenger service—New England.

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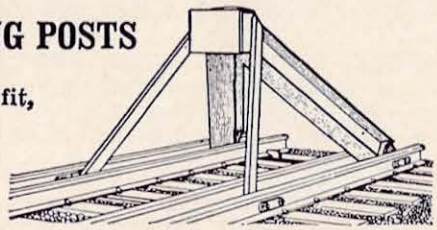

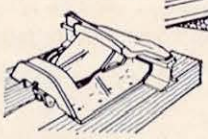

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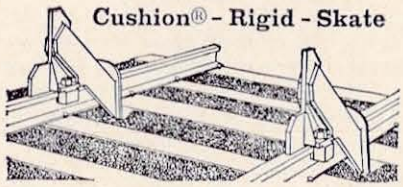

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Bruce C. High, Jr.
SCL

Frank M. Guerin
SP

D. R. Mc Cleary
Fruehauf

W. L. Franzer
Fruehauf

Richard R. Parks
Thrall

READING.—Donald D. Muir appointed director, planning and budget; **T. R. Dolbow,** manager planning, and **Donald C. Barr,** transportation engineer, Budgeting and Planning Department. Mr. Muir was formerly superintendent budget and cost control. Mr. Dolbow was financial analyst, budget and costs. Mr. Barr was operating coordinator. **Edward J. Atkinson,** financial analyst, named manager-budget, Budgeting and Planning Department, Philadelphia.

REA EXPRESS.—James G. Cunningham has joined REA as vice president—transportation services, New York. Mr. Cunningham has had 17 years experience in both motor carrier and rail transportation. **Max R. Gramly, Jr.** appointed vice president—maintenance. **Hank H. Steiner,** director of national accounts and government division, named vice president—sales. **Thomas L. Borg,** manager, national accounts—western division, named director, national accounts division, New York.

RICHMOND, FREDERICKSBURG & POTOMAC.—Reginald A. Stanfield appointed tax accountant, Richmond.

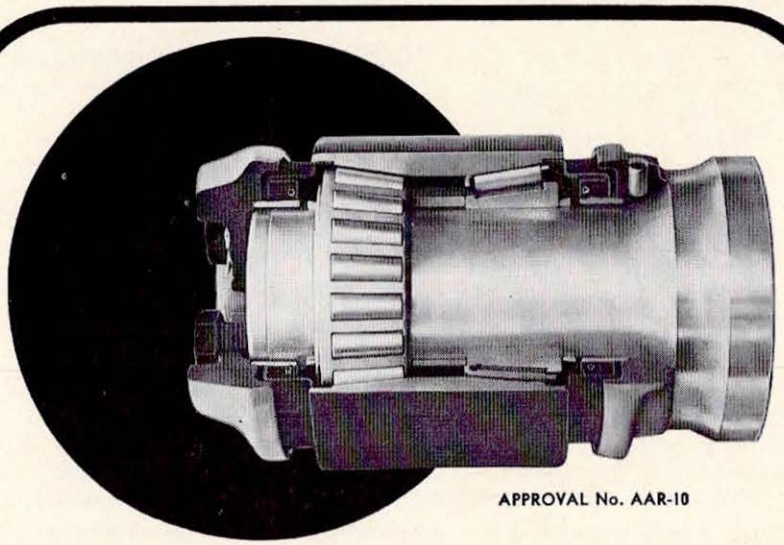
ROCK ISLAND.—M. R. Ewing appointed superintendent, Illinois division, Silvis, Ill. **D. E. Visney** named acting superintendent, Southern division, El Reno, Okla.

W. J. Pasta named manager equipment distribution and utilization; **B. B. Irwin,** superintendent TOFC equipment distribution and utilization; **D. C. Hansen,** superintendent TOFC operating services; **D. F. Henthorn,** manager cost administration (TOFC department); **R. G. Vick,** manager trailer maintenance (TOFC department), all with headquarters in Chicago.

F. J. Garner named chief of yard and terminal operations, and **W. C. DeVries,** assistant general manager operating services, both with headquarters at Kansas City, Kans.

T. R. Smith; M. B. Campbell, and **J. L. Evans** named master mechanics, Chicago, Des Moines, Iowa, and Silvis, Ill., respectively. **B. W. Rollins** and **E. G. Henson** become master car repairers, El Reno, Okla., and Little Rock, Ark., respectively.

ST. LOUIS SOUTHWESTERN. — Norbert E. Genet, general agent, Cincinnati, appointed assistant traffic manager, Chicago, to succeed **Harold J. Breitenbach,** who retired Dec. 31, 1969, after more than 44



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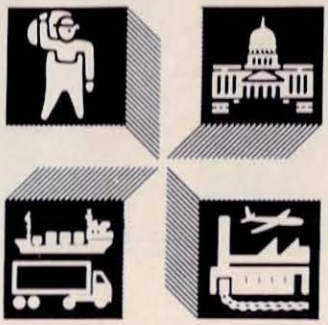
Manufacturer: The Toyo Bearing Mfg. Co., LTD.

Circle 25 on coupon page 43



Discuss the CONTAINER

with Labor, Government, the Carrier, and the User.

SYMPOSIUM/WORKSHOP

- U. S. SECRETARY OF LABOR / GENERAL CHAIRMAN
- STATE DEPARTMENT PARTICIPATION (PLUS ALL GOV'T AGENCIES)
- 14 TRADE ASSOCIATIONS
- 20 TRADE MISSIONS
- 150 LONGSHOREMEN OFFICIALS FROM 40 NATIONS

THE CONTAINERIZATION WORLD WILL ASSEMBLE IN CHICAGO IN THE SPRING. Along with the Fifth International Container Services and Equipment Exposition that will showcase all goods and services related to containerization, there will be an unprecedented Symposium/Workshop. It will provide a forum for an exchange of ideas between Labor, Government, Management and the User away from the pressures of collective bargaining. The symposium is coupled with the simultaneous exhibition of equipment, components, services and systems involved with containerization. It ushers in the 1970's with the most urgent event ever related to containerization. Intermodal transportation, computer systems, container handling equipment manufacturers and distributors, banks, insurors, freight forwarders, customs house brokers, shipbuilders, ports, allied industries, container manufacturing and leasing, government bodies, trade associations and trade publications — all will be represented. You should be too!

IT'S NOT TOO LATE TO EXHIBIT!

CHICAGO LONDON BALTIMORE MELBOURNE MONACO 5th

The Fifth International Container Services & Equipment Exposition

INTERNATIONAL AMPHITHEATRE
CHICAGO
APRIL 14-17, 1970

MACK-BROOKS EXPOSITIONS, INC.
121 Alleghany Avenue
Baltimore, Maryland 21204 Telephone (301) 823-0054
Please send me:

- ☐ Information on registration for Symposium/Workshop, April 14-17, 1970
- ☐ Information on exhibiting at the Fifth International Container Services & Equipment Exposition — Chicago
- ☐ Information on the Fourth International Container Services & Equipment Exposition, June 1-5th, 1970 — London

name
title
company
address zip

years' service. Mr. Genet's successor is **Joseph O. Burnette,** district freight agent, **SSW** and **SP,** Shreveport, La., who in turn is replaced by **John W. O'Dowd,** general agent, **SSW,** Chattanooga, Tenn. **Charles E. Spain** replaces Mr. O'Dowd.

SANTA FE.—W. D. Stewart named budget manager-Coast Lines, Los Angeles.

Arthur V. Sorenson and **William H. Weymouth, Jr.,** assistant general purchasing agents, Chicago, retired Feb. 1 after more than 43 and 32 years of service, respectively.

Warren R. Henry, special representative-executive department, Houston, named executive representative there, to succeed **Kelley M. Fogg,** who retired Jan. 31 after more than 51 years of service.

R. W. Harper, executive assistant-finance, appointed vice president—finance, Chicago. Mr. Harper is also treasurer, **Santa Fe Industries, Inc.**

George W. Cox, vice president—real estate and industrial development, Chicago, retired Feb. 28 after more than 49 years of service.

SEABOARD COAST LINE.—A. Meigs, Jr, assistant director purchasing and stores, appointed assistant vice president, purchasing and stores, Jacksonville.

Bruce C. High, Jr., transportation assistant to vice president—operations, named assistant vice president—operations, Jacksonville, Fla. **Aubrey T. Teachey,** staff assistant to vice president—operations, appointed assistant to vice president — operations, Jacksonville.

SOUTHERN PACIFIC.—Frank M. Guerin, assistant traffic manager, Los Angeles, appointed traffic manager there, to succeed **Victor L. Arenth,** retired.

H. E. McNaught, manager of perishable freight traffic, San Francisco, retired Feb. 28 after 47 years of service.

WESTERN MARYLAND.—Darrell L. Nunley appointed district sales manager, Houston, Tex., succeeding **S. J. Williams,** promoted.

H. C. Lippy named manager—capital expenditures; **L. C. Byers,** senior engineer, and **W. W. Peeling,** assistant to manager—capital expenditures, Baltimore. **Nelson Hammond,** valuation engineer, retired Jan. 31, after more than 47 years of service. Abolished positions of valuation engineer, valuation assistant, assistant engineer and accountant, as well as the Valuation Subdivision, Engineering Department.

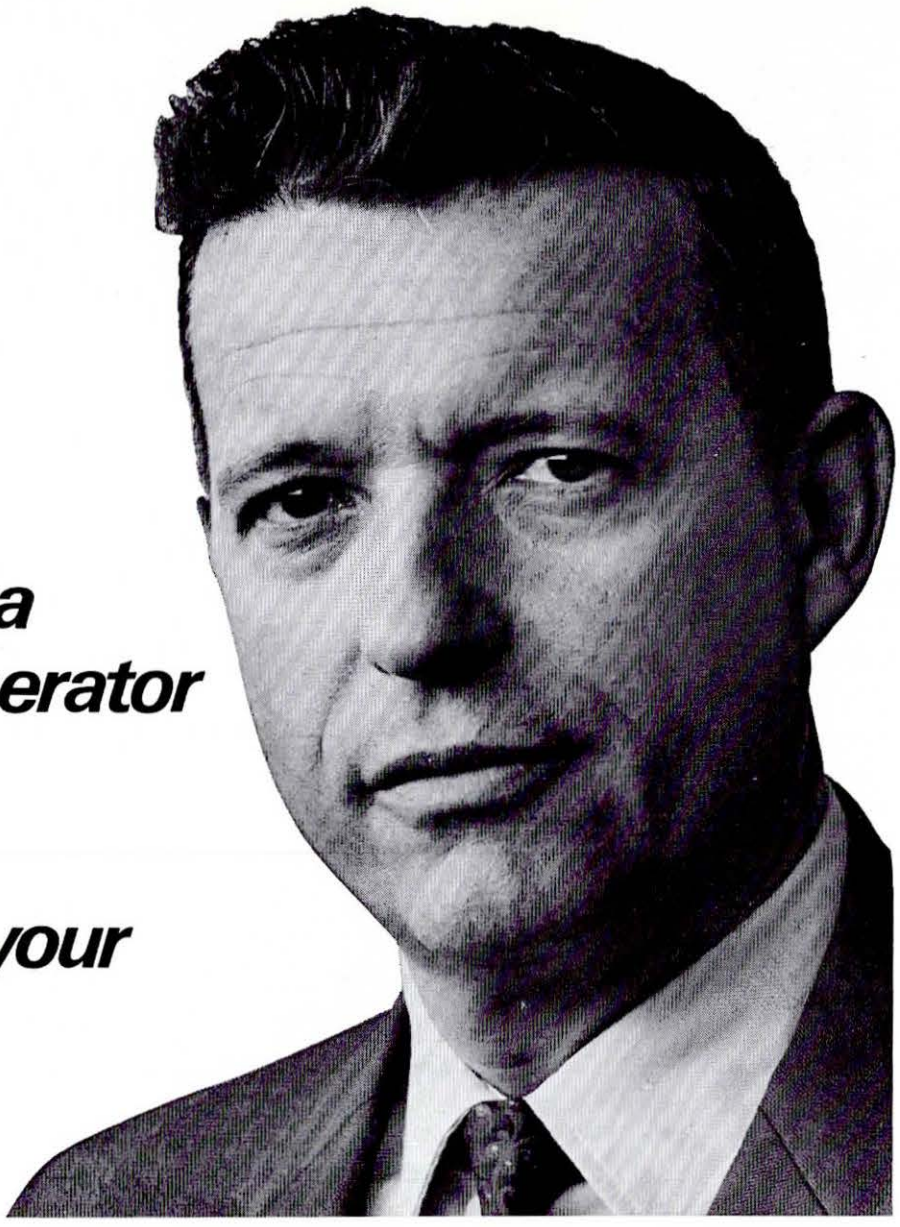
Richard J. Crisafulli appointed assistant to manager, industrial development and real estate, Baltimore. Mr. Crisafulli is a recent graduate of the University of Maryland where he received the degree of Bachelor of Science in Transportation.

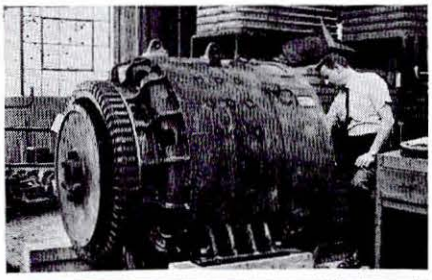
SUPPLY TRADE

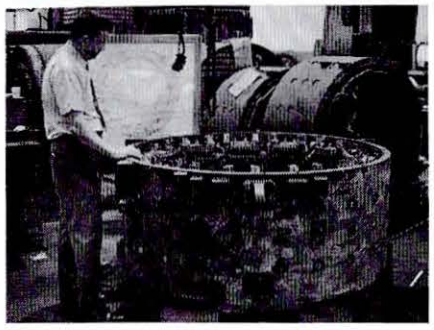
D. R. Mc Cleary, vice president-sales, Northeast Region, **Fruehauf Division, Fruehauf Corp.,** has been promoted to vice president and general sales manager. **W. L. Franzer,** manager of the Philadelphia branch, succeeds Mr. Mc Cleary.

(Continued on page 64)

Charles Hulls can give you a universal generator that fits any locomotive, and reduces your inventory.







Above: A D-12 generator prior to conversion. Below: D-32 stator during rewinding. Note mounting lugs, adaptable to any locomotive.

Railways are finding National's generator-conversion plan a big time-and-money saver in meeting the need for more power for traction motors. We remanufacture EMD D-12 generators — convert them to D-32 design to give you optimum power in frame mountings that *fit any locomotive.* This works two ways: (1) We convert *your* D-12 to modern D-32 design, or (2) we sell you a D-32 from our unit exchange stock—and ship immediately. Either way, you get the unmatched quality of National designs, materials and workmanship, you make substantial time and dollar savings over new epuipment, and you get a generator that mounts on any EMD locomotive. *It reduces inventory.*

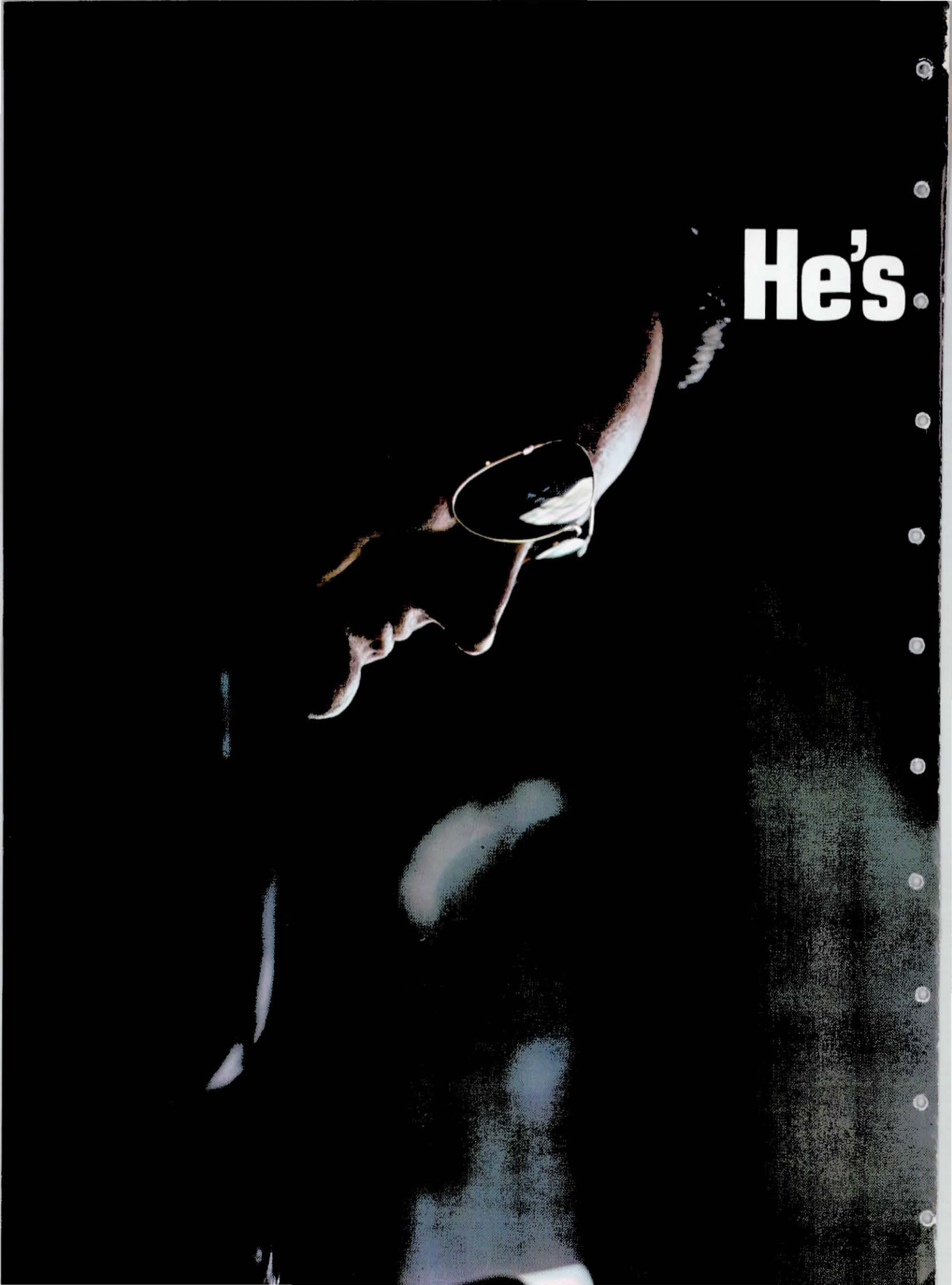
Many pluses account for the long, trouble-free life of National remanufactured traction generators. For example: After field coils and bars are assembled in the pole pieces, they are vacuum-pressure impregnated with an epoxy resin. Then, after installation in the frame, the entire field structure is dipped in varnish, making it highly resistant to moisture.

Charles Hulls, our Railway Coordinator, is backed by an experienced team of engineers and craftsmen assigned to the D-12 to D-32 conversion program. For full information, dial him today at 614/488-1151. National Electric Coil, Columbus, Ohio 43216.

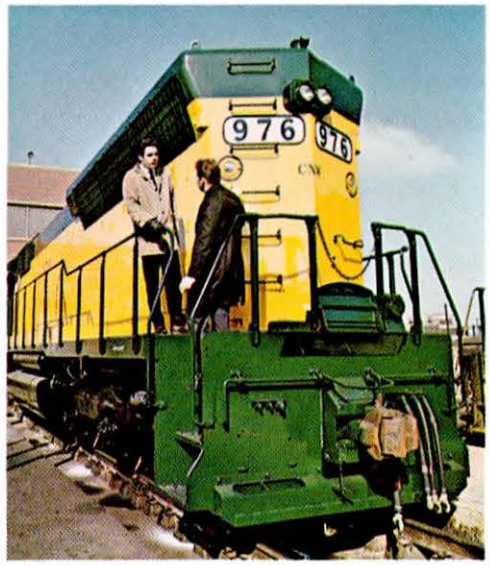
DIVISION OF McGRAW EDISON

You get a lot more than copper in a* National Electric Coil *job.

Circle 26 on coupon page 43


He's.

your man.



We call him our Service Engineer.

He's just one of the Electro-Motive service people assigned specifically to your railroad.

EMD Service Engineers are at your service, especially when new locomotives are delivered, to make sure they're ready to go to work. And they bring your key operating people up to date on new components, new maintenance techniques and new operating methods.

Day-to-day service assistance is always available to you through the Service Engineer and his boss, the District Engineer. He's your man, too. And he's ready to help whenever he can in your service operations.

Our on-the-job service people represent just one more segment of Electro-Motive's total commitment to the railroad industry.

GM
MARK OF EXCELLENCE

Electro-Motive Division
La Grange, Illinois

"With Max, one number does it! 800-328-4567"

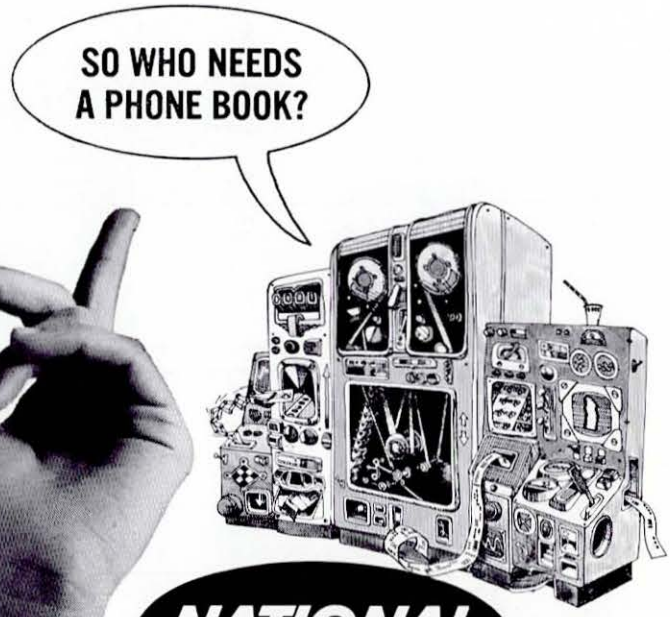
From anyplace call 800-328-4567 for a guaranteed car anywhere.

National makes it easy—you remember just one number for car rental. You call it toll-free from any place and Max, our computer, gets you a guaranteed car reservation anywhere . . . at any one of 2400* worldwide locations.

Max knows where every one of our cars is every minute—the other guys are just guessing. Max doesn't promise; he *guarantees*. Which you'll appreciate if you've ever tried to drive a promise.

Call Max to reserve a Chevy, Buick, Pontiac, Oldsmobile, Cadillac or other fine car. You'll get S&H Green Stamps, too. So next time, call Max. (He's available whenever you are.) Only Max can guarantee car reservations, and only National Car Rental has Max. Let Max do it.

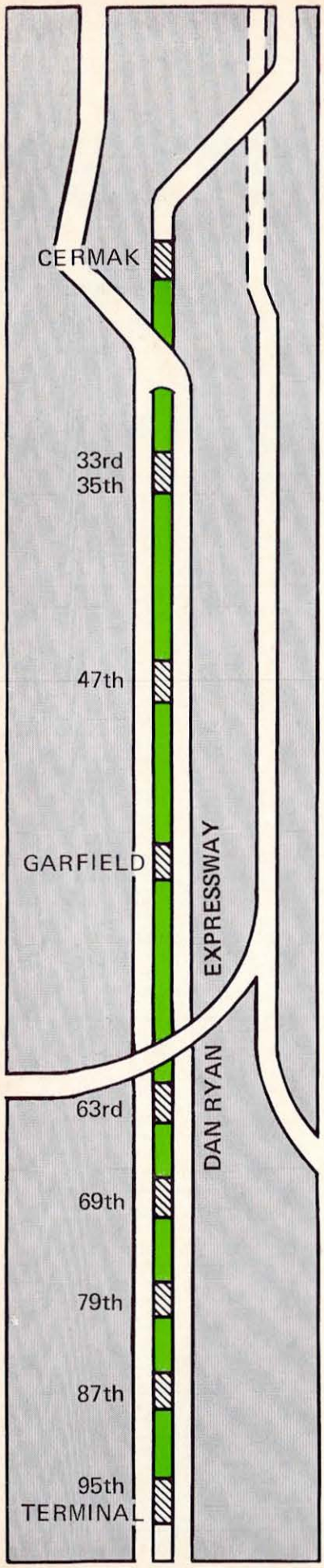
*Tilden-Rent-A-Car in Canada.



NATIONAL CAR RENTAL®

We make the customer No. 1.

© Nat-Car-Rent-Co 1970

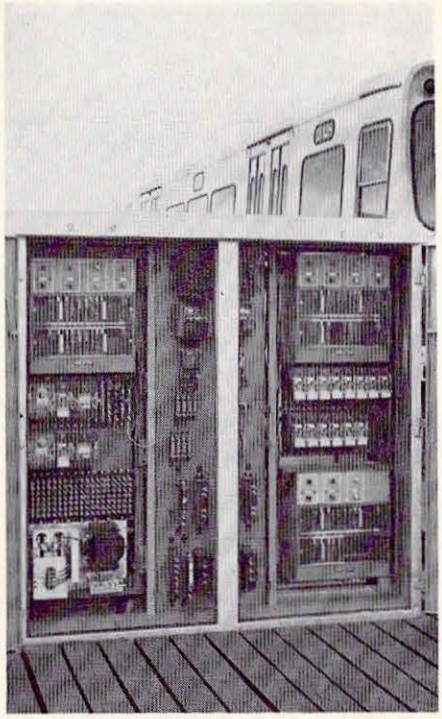


Chicago Transit Uses GRS Systems on New Median Strip Transit Line

Unhampered by traffic jams, Chicago transit riders now travel in swift, safe comfort along the median strip of the Dan Ryan Expressway.

The stainless steel cars, well lighted and air-conditioned, glide smoothly on continuous welded rails. The train speed and safety control system too is thoroughly modern, with controls transmitted directly to the trains via GRS high-frequency electronic track circuits—ideally suited for jointless continuous rail.

At strategic switching tower areas, other GRS systems provide interlocking route-setting controls for switches and signals. Included is "NX", the GRS pushbutton control system that is a world standard for efficient, high-speed control of busy rail traffic centers.



Typical wayside electronic control system case.

GENERAL RAILWAY SIGNAL COMPANY

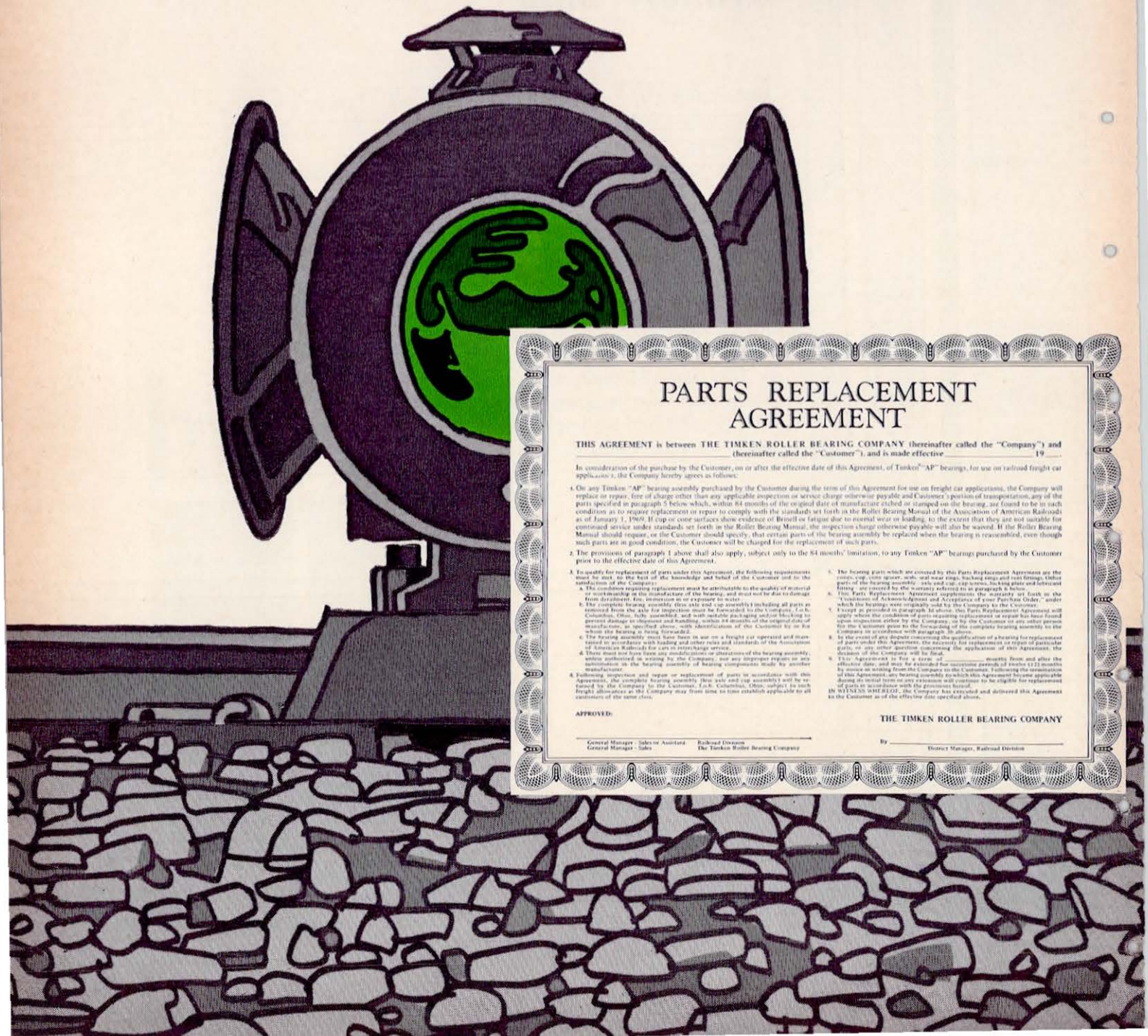
A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602

ATLANTA BOSTON CHICAGO MONTREAL NEW YORK OAKLAND ST LOUIS ST PAUL

Circle 28 on coupon page 43

You get a better because you better



PARTS REPLACEMENT AGREEMENT

THIS AGREEMENT is between **THE TIMKEN ROLLER BEARING COMPANY** (hereinafter called the "Company") and _____ (hereinafter called the "Customer"), and is made effective _____ 19____.

In consideration of the purchase by the Customer, on or after the effective date of this Agreement, of Timken® "AP" bearings, for use on railroad freight car applications, the Company hereby agrees as follows:

1. On any Timken "AP" bearing assembly purchased by the Customer during the term of this Agreement for use on freight car applications, the Company will replace or repair, free of charge other than any applicable inspection or service charge otherwise payable and Customer's portion of transportation, any of the parts specified in paragraph 5 below which, within 84 months of the original date of manufacture etched or stamped on the bearing, are found to be in such condition as to require replacement or repair to comply with the standards set forth in the Roller Bearing Manual of the Association of American Railroads as of January 1, 1969. If cup or cone surfaces show evidence of Brinell or fatigue due to normal wear or loading, to the extent that they are not suitable for continued service under standards set forth in the Roller Bearing Manual, the inspection charge otherwise payable will also be waived. If the Roller Bearing Manual should require, or the Customer should specify, that certain parts of the bearing assembly be replaced when the bearing is reassembled, even though such parts are in good condition, the Customer will be charged for the replacement of such parts.

2. The provisions of paragraph 1 above shall also apply, subject only to the 84 months' limitation, to any Timken "AP" bearings purchased by the Customer prior to the effective date of this Agreement.

3. To qualify for replacement of parts under this Agreement, the following requirements must be met, to the best of the knowledge and belief of the Customer and to the satisfaction of the Company:
   a. The condition requiring replacement must be attributable to the quality of material or workmanship in the manufacture of the bearing, and must not be due to damage from derailment, fire, immersion in or exposure to water.
   b. The complete bearing assembly (less axle and cap assembly) including all parts as removed from the axle for inspection must be forwarded to the Company, f.o.b. Columbus, Ohio, fully assembled, and with suitable packaging and/or blocking to prevent damage in shipment and handling, within 84 months of the original date of manufacture, as specified above, with identification of the Customer by or for whom the bearing is being forwarded.
   c. The bearing assembly must have been in use on a freight car operated and maintained in accordance with loading and other rules and standards of the Association of American Railroads for cars in interchange service.
   d. There must not have been any modifications or alterations of the bearing assembly, unless authorized in writing by the Company, nor any improper repairs or any substitution in the bearing assembly of bearing components made by another manufacturer.

4. Following inspection and repair or replacement of parts in accordance with this Agreement, the complete bearing assembly (less axle and cap assembly) will be returned by the Company to the Customer, f.o.b. Columbus, Ohio, subject to such freight allowances as the Company may from time to time establish applicable to all customers of the same class.

5. The bearing parts which are covered by this Parts Replacement Agreement are the cones, cup, cone spacer, seal, seal wear rings, backing rings and seal fittings. Other parts of the bearing assembly – axle and cap, cap screws, locking plate and lubricant fitting – are covered by the warranty referred to in paragraph 6 below.

6. This Parts Replacement Agreement supplements the warranty set forth in the "Conditions of Acknowledgment and Acceptance of your Purchase Order," under which the bearings were originally sold by the Company to the Customer.

7. Except as provided in paragraph 3d above, this Parts Replacement Agreement will apply where the condition of parts requiring replacement or repair has been found upon inspection either by the Company, or by the Customer or any other person for the Customer, prior to the forwarding of the complete bearing assembly to the Company in accordance with paragraph 3b above.

8. In the event of any dispute concerning the qualification of a bearing for replacement of parts under this Agreement, the necessity for replacement or repair of particular parts, or any other question concerning the application of this Agreement, the decision of the Company will be final.

9. This Agreement is for a term of _____ months from and after the effective date, and may be extended for successive periods of twelve (12) months by notice in writing from the Company to the Customer. Following the termination of this Agreement, any bearing assembly to which this Agreement became applicable during its initial term or any extension will continue to be eligible for replacement of parts in accordance with the provisions hereof.

IN WITNESS WHEREOF, the Company has executed and delivered this Agreement to the Customer as of the effective date specified above.

APPROVED:

THE TIMKEN ROLLER BEARING COMPANY

_____
General Manager - Sales or Assistant General Manager - Sales
Railroad Division
The Timken Roller Bearing Company

By _____
District Manager, Railroad Division

agreement, get a bearing.

Your Timken® "AP" bearing performance record proves it.

In fact, this 15-year Timken "AP" bearing performance record enables us to provide four maintenance savings in our Parts Replacement Agreement.

1. You get protection against brinelling from impact. Where no derailment damage is evident.

2. All parts of every Timken "AP" bearing are covered. Including seals, but excluding the end-cap assemblies.

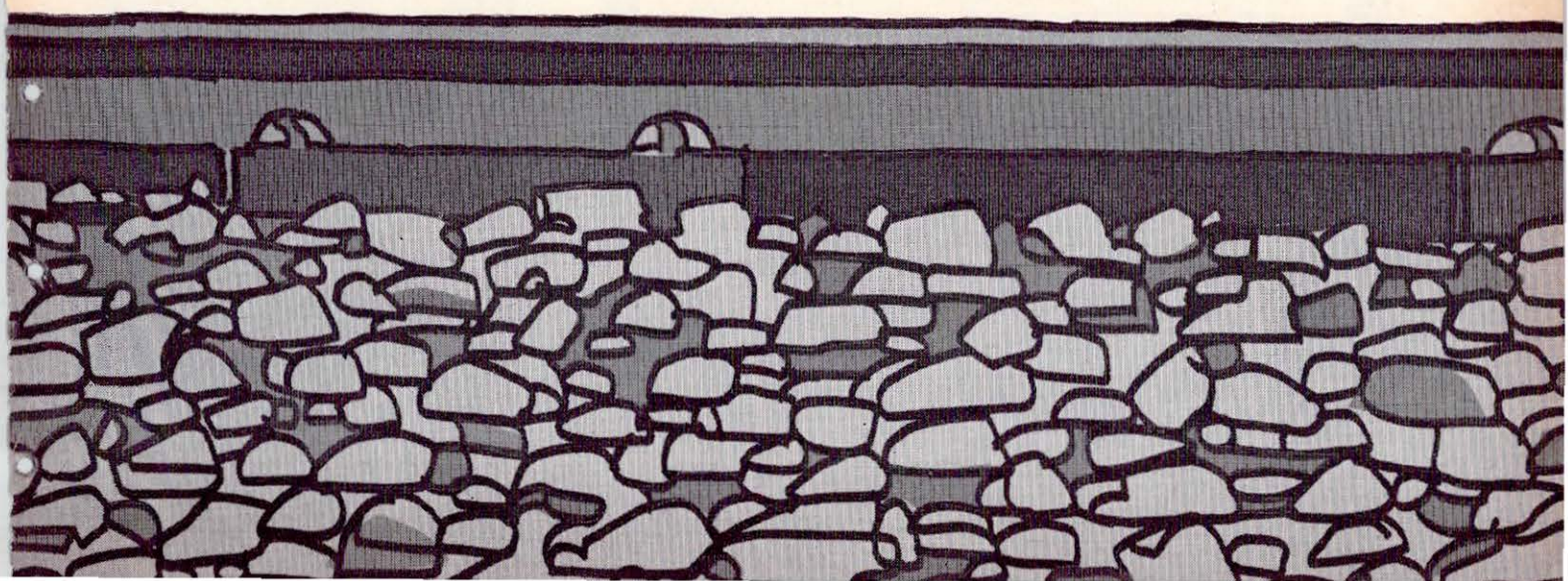
3. You save on inspection charges under specified conditions.

4. You get all this on Timken "AP" bearings manufactured up to 7 years ago. Because only Timken "AP" bearings have performance to match this agreement.

The Timken Roller Bearing Company, Canton, Ohio. Timken bearings sold in 133 countries. Manufacturing in Australia, Brazil, Canada, England, France, South Africa and the U.S.A.

Our word is as good as our bearing.

TIMKEN®
REGISTERED TRADEMARK
TAPERED ROLLER BEARINGS



Frank A. Mularz
Dorsey Trailers

Robert D. Hubble
Shunk

Andrew Hvizd, Jr.
Kerite

C. Clifton Smith, Jr.
K W Battery

(Continued from page 56)

Richard R. Parks has been appointed assistant vice president, manufacturing, **Thrall Car Manufacturing Co.** He was formerly manufacturing manager, **AC Electronics Division, General Motors,** Milwaukee.

Frank A. Mularz, general sales manager, **Dorsey Trailers,** Elba, Ala., has been elected vice president sales, succeeding **T. K. Dorsey,** resigned for health reasons.

Robert D. Hubble, vice president and general manager, **Shunk Manufacturing Co.,** Bucyrus, Ohio, has been named president.

Andrew Hvizd, Jr., assistant chief engineer, **Kerite Co.,** Seymour, Conn., has been promoted to chief engineer.

C. Clifton Smith, Jr. has been named vice president, marketing, **K W Battery Co.,** a subsidiary of **Westinghouse Electric Corp.** Mr. Smith was formerly associated with the headquarters marketing staff of the Westinghouse components and materials group, Pittsburgh.

Robert M. Smith has been promoted to manager of the newly opened Twin Cities district office and distribution center. **L. B. Foster Co.** He was formerly construction products salesman, Chicago District.

Joseph F. Culp has been promoted to sales manager, **Lord Manufacturing Co.,** Erie, Pa.

The industrial relations departments, **Westinghouse Air Brake Division** and **Signal & Communications Division, Westinghouse Air Brake Co.,** have been merged. **Frank G. Miller,** manager of industrial relations, Signal & Communications Division, Swissvale, will manage the combined departments.

Jackson Vibrators, Inc. has established their executive and general office at 332 S. Michigan Avenue, Chicago, which was previously the general sales office. **Edward A. Cleary,** president, will make his headquarters in the Chicago office.

J. K. Brooks has been appointed district sales manager, railway sales, **Texaco Inc.,** San Francisco.

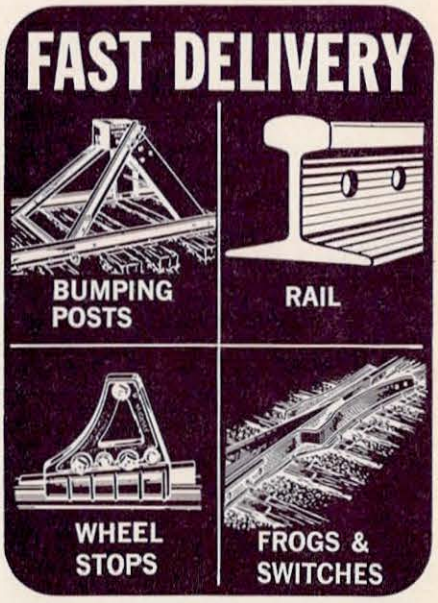
Ansonia Wire & Cable Co., Ashton, R.I., has announced appointment of **National Accessories Co., Inc.,** Philadelphia, as exclusive agents servicing the railroads and fixed ground transit industries in the United States, Canada and Mexico.

Stephen T. Marcin has been appointed a salesman, railroad products, **Bethlehem Steel Corp.,** Bethlehem, Pa. He formerly served as a salesman at Chicago.

John W. Bergen has been elected to

our shelves
are your
warehouse
When it comes to specialty bolts, you'll find them on our shelves, as standard items, ready to ship to you today. Buy one or a carload . . . pay only blanket prices. How's that for being on your side?
Bolts made to AAR Specifications
Member Railway Supply Association, Inc.
LBF
LANMAN BOLT & FORGE COMPANY, INC.
475 East 151st Street ■ East Chicago, Indiana 46312
219/398-0275

Circle 30 on coupon page 43



YOU SAVE when you buy trackwork or rail from Midwest Steel. All items manufactured or warehoused in one plant, your entire order filled at one time, thus saving you freight, handling costs, delays.

Send for Catalog showing complete line of rail and trackwork. Write today.

MIDWEST STEEL CORP.

508 CAPITOL ST., CHARLESTON, W. VA. 25321
ST. LOUIS, MO. • POMEROY, OHIO • JENKINTOWN, PA.

Circle 31 on coupon page 43

the newly established position of vice president-railroad products, **Stanray Corp.**, in addition to his duties as president of the company's **Standard Railway Equipment Division.**

George D. Tomazi, manager of research planning, **General Steel Industries, Inc.**, St. Louis, Mo., has been appointed manager of corporate planning.

Max L. Keenan, vice president—national account sales, **Fruehauf Division, Fruehauf Corp.,** appointed vice president—marketing, **Fruehauf International, Ltd.,** London, England.

R. H. Allen, vice president, **Graphic Persuasion, Inc.,** Chicago, has been appointed account executive, to handle all advertising for **American Steel Foundries, Amsted Industries.**

Branko Solaric has been named president, **Container Leasing Corp.,** New York. Mr. Solaric was formerly with Francesco Parisi Co., international freight forwarding firm.

CCI Corp. has acquired substantially all of the outstanding capital stock of **Railroad Accessories Corp.** and has an option to acquire the remainder.

John C. Hunter, sales manager, Central Region, **Integrated Container Service, Inc.,** has been named general manager, Southern Region, St. Louis, a newly created position.

William F. Clark has been appointed general sales manager for container services, **American Export Freight, Inc.,** New York. He was formerly Mid-Atlantic sales manager. **Hermann G. Schwarze,** general traffic manager, Container Services, has been elected vice president—pricing and conferences, **American Export Isbrandtsen Lines, Inc.**

David F. Steinberger has been appointed a salesman, **Berwick Forge & Fabricating Corp.,** Chicago, reporting to the western sales manager.

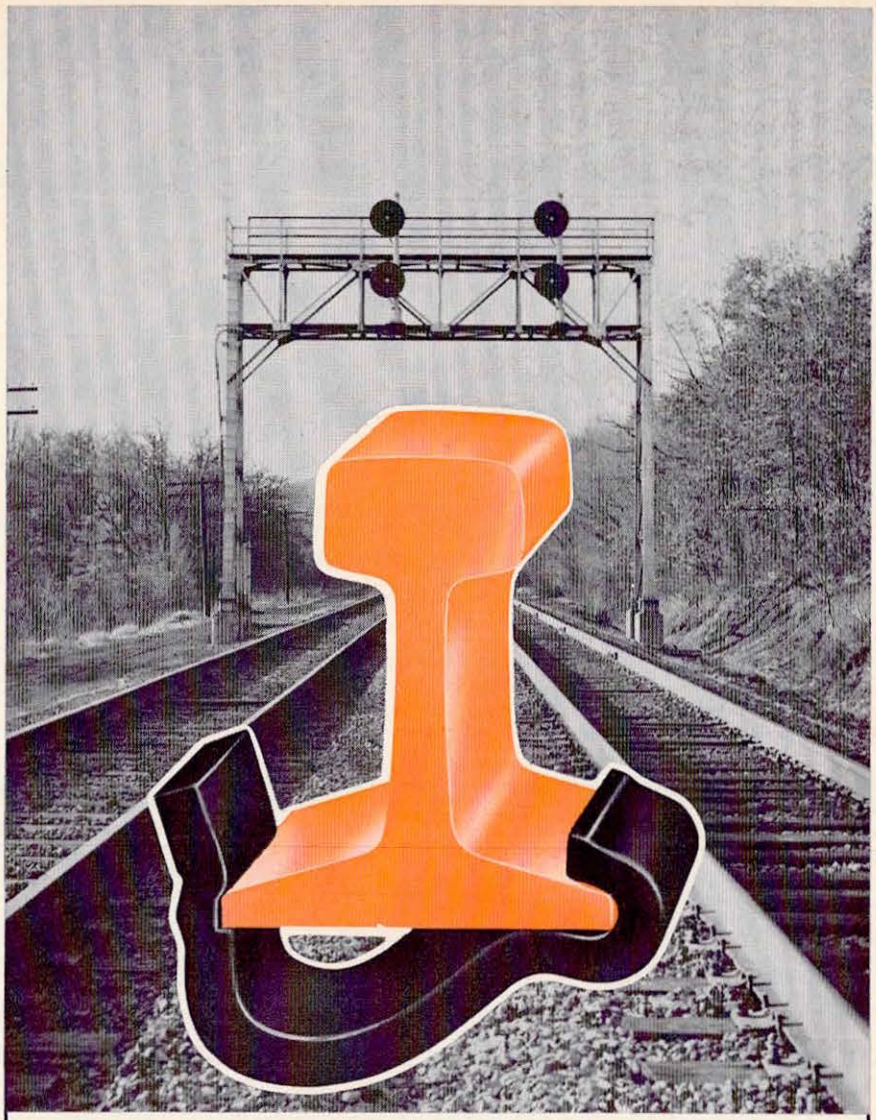
John H. Woolner has been appointed to the newly created post of manager—product development, **Railway Maintenance Corp.,** Pittsburgh, Pa.

Carl Krisco has been appointed engineer supervisor for electrical systems, Transportation System Division, **Vapor Corp.,** Chicago.

FreightMaster's new 155,000 sq. ft. $3.3 million manufacturing plant in Fort Worth, Tex. is scheduled to be completed in June 1970.

Alexander A. Wright has been named division manager, **Western-Cullen Division, Federal Sign & Signal Corp.,** Chicago.

(Continued on page 74)



YOUR RAILROAD HAS A FUTURE! DO YOUR RAIL ANCHORS?

They do, if they are rugged Unit Rail Anchors. High carbon, high manganese, spring steel, improved heat treating methods, and truly effective no-overdrive design give the Unit Rail Anchor the holding power it needs — for today's job and for repeated future use. You get maximum service — Unit Rail Anchors can be used over and over again without significant loss of holding power. Due to the UNIT'S design, it CANNOT be overdriven . . . assuring economy through REAPPLICATION, without costly re-forming. Initial investment is paid for many times over through high REAPPLICATION value. Unit Rail Anchors — the Future is designed into them.

ALSO AVAILABLE — UNIT II. Same high quality at a lower cost . . . Made from a slightly lighter section of steel, for requirements where the very high holding power and reserve strength of the Standard Unit are not considered essential.

Hubbard Super Steel and Super Service Alloy TRACK SPRING WASHERS . . . manufactured to meet all current A.R.E.A. specifications

Hubbard Carbon and Alloy Track Tools to meet current A.R.E.A. specifications and U.S. Department of Commerce Simplified Practice Recommendations.

MEMBER RPI RAILWAY PROGRESS INSTITUTE

UNIT RAIL ANCHOR COMPANY, INC.

P.O. Box 4004
Pittsburgh, Pa. 15201
(412) 781-4800

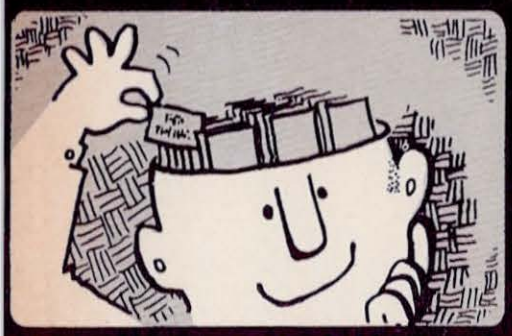
Midwest Office: 322 S. Michigan Ave.
Chicago, Ill. 60604
(312) 427-7442

70RA1

Circle 32 on coupon page 43

Sales messages never die,

From the Railway Age Group slide film: "Getting Your Full Potential from the Railroad Market"



Points Discussed

Points Discussed

1 If people had perfect, filing-card-type memories, you would say something to them once—and that would be that. You would make one sales call—tell the whole story—then go back to the office and wait for orders. But memory is not like that. One of the classic demonstrations of the frailty of memory was an English experiment. . . .

2 At a meeting of the Cambridge Psychological Society, a recording was made of the discussion—without the knowledge of those present. Two weeks later, the same people were asked to write down everything they could remember about the points discussed.

3 On the average, people recalled only 8.4 per cent of the points they had discussed. *And what people "remembered" about the points was substantially wrong in 42% of the cases!* And these were scholars intent on their study—not just people listening to a salesman. How well are salesmen's calls remembered?...

Newspaper Ads

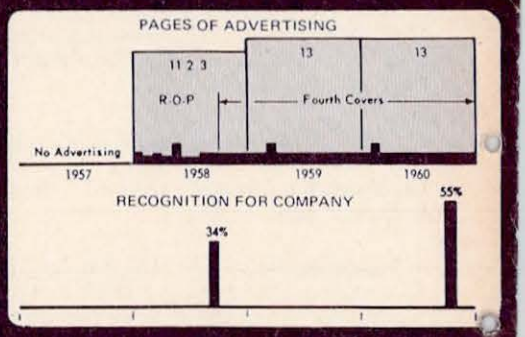
Newspaper Ads

7 For example, Daniel Starch found that newspaper advertisements rapidly faded away . . .

8 After one day, only 36.8% recognized a set of advertisements in newspapers . . . after five days only 30% . . .

9 After eight days, only 26.5% recognized the advertisements. There have been dozens of tests like these . . .

IF THE PROSPECT DOESN'T KNOW—OR REMEMBER—THE NAME OF YOUR PRODUCT OR SERVICE, YOUR CHANCE OF MAKING A SALE TO HIM AT THAT TIME IS VERY LOW INDEED.



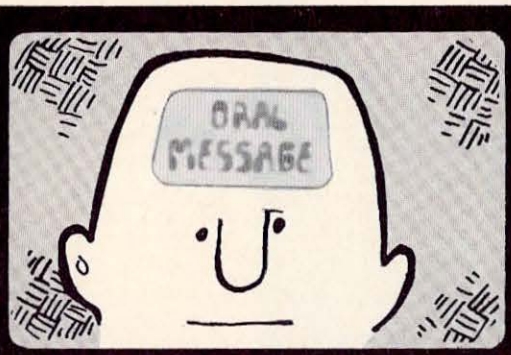
13 Let's be clear about the value of recognition studies. Selling begins, of course, with the prospect's awareness of who you are—of what you're selling and what it can do for him. Selling collapses when the prospect no longer recognizes the product or service by name.

14 A test for product or company recognition, therefore, provides a basic reading of where a manufacturer stands with a prospect. With recognition, he's in the running. Without recognition, he's apt to be out of it entirely.

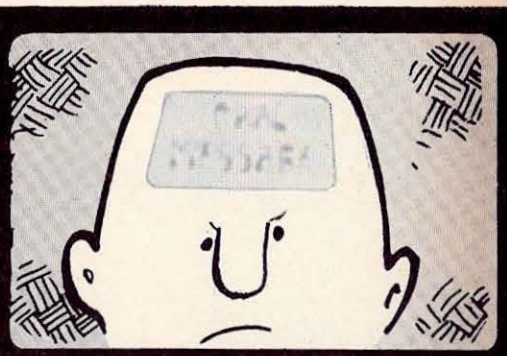
15 After appearing for a short time in R-O-P space, a manufacturer of electronic equipment made a survey among readers of AVIATION WEEK, asking them if they were familiar with the name of his company. 34% were. Then he switched to fourth covers. Two years later, recognition had stepped up to 55%.

they just fade away

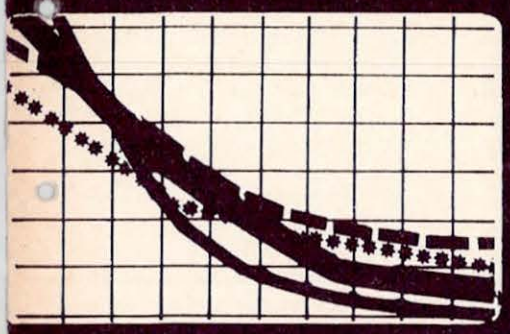
4 Studies by Dr. E. L. Thorndike of Columbia University show that of an oral message . . .



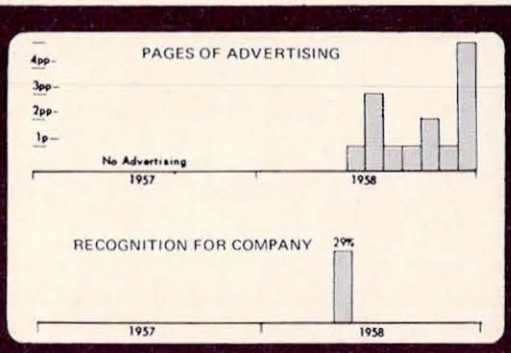
5 Only 72% is remembered after one day . . . only 52% is remembered after one week . . .



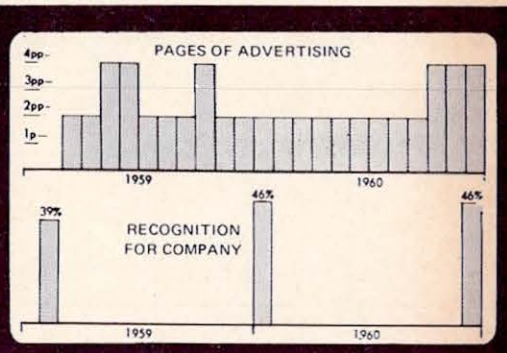
6 Only 30% is remembered after one month. How well are advertisements remembered? Well, you don't run an advertisement and forget it. The *readers* forget it for you!



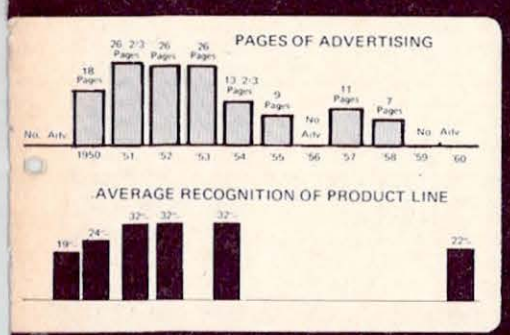
10 If you plotted a few, you'd find that they all conform quite closely to a "curve of forgetfulness." The low cost way to combat this fading of memory is with *frequently repeated advertising*—to make sure that your prospects keep what your salesmen say in mind. A maker of processing equipment wanted to be sure he was doing this . . .



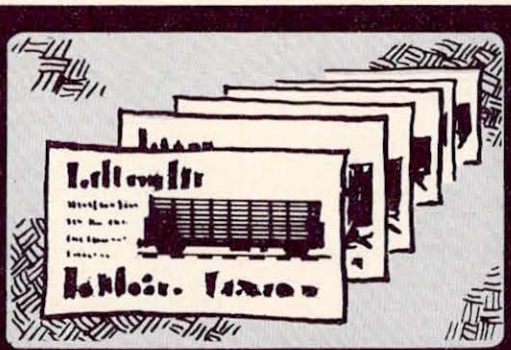
11 Before beginning an advertising campaign in June, 1958, he surveyed a sample of CHEMICAL ENGINEERING subscribers and asked them: "What companies do you consider to be leading manufacturers of centrifugal separators?" 29% of them named his company, among others.



12 A year later—and after he had run 14 pages of advertising—his recognition had increased to 39%. After 26 pages, his recognition had risen to 46%. Eleven months later, recognition had stabilized at 46%. This study, like the two that follow, is reported by McGraw-Hill's Laboratory of Advertising Performance.



16 Here's what happened when a manufacturer first increased, then maintained, then dropped his advertising. Providing almost a mirror image of his advertising pattern, recognition rose from 19 to 24 to 32%—held at 32%—then fell off to 22%. *Clearly, just as more advertising builds you up, less advertising lets you down.*



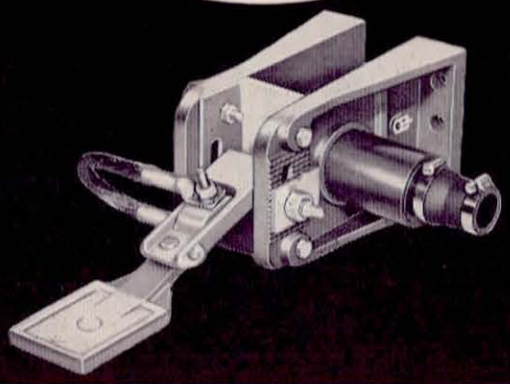
17 What does the prudent supplier do to keep his story strong and clear in the fading memories of his prospects? *He advertises regularly!* With the cost of a sales call pushing $50, regular advertising is one of the soundest business investments a seller can make today.

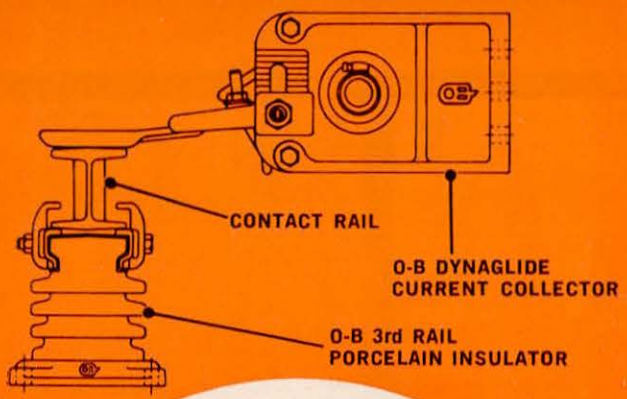
THE RAILWAY AGE GROUP

18 In advertising to the railroad market, the soundest investment is the Railway Age Group—semi-monthly RAILWAY AGE and monthly RAILWAY LOCOMOTIVES & CARS, RAILWAY TRACK & STRUCTURES and RAILWAY SIGNALING & COMMUNICATIONS. So well do they fit the market pattern, that they give you unmatched coverage and impact.

For more information, or to see the film sampled above, write Simmons-Boardman Publishing Corp., 30 Church, New York, N.Y. 10007

O-B's new
DYNAGLIDE®
CURRENT COLLECTOR





outperforms
the old style
heavyweights

Torsional spring loading to maintain uniform rail contact pressure. Adjustable for ready accommodation to variations in rail height. Exceptional performance at speeds to 100 MPH.

Weighs less than 40 lbs. – just a fifth that of conventional heavyweights. Saves up to 600 deadweight pounds per car – a significant operational savings per year.

Rugged Plaskon support bracket is its own insulator. Direct connection from shoe through fuse box to motors.

Simplified design. Only five basic components. Only one moving part. Fast servicing, easy maintenance.

The perfect choice for specification on new vehicles or replacement on old. Your O-B District Manager will show you how this new, advanced current collector will fit your specifications – step up transit performance.

668-T

THE OHIO BRASS COMPANY • MANSFIELD, OHIO • 44902
Canadian Ohio Brass Company Limited • Ontario, Canada

OHIO BRASS

Circle 34 on coupon page 43

RAILWAY BOOKSHELF

ALL ABOARD! by Dr. Willis F. Dunbar. The former head of the history department of Western Michigan University takes on a rather formidable task in describing the development of all Michigan's railroads. Once the Toledo Strip compromise had conceded a segment of southern Michigan in exchange for the Upper Peninsula as a condition of Michigan's admission to the Union, it brought into being a two-part state divided by Lake Michigan and the Straits of Mackinac. Since there has never been an intrastate rail connection between the two segments (only car ferries), the two rail networks generally developed separately. After private enterprise was unsuccessful in opening the Lower Peninsula's earliest railroads, the state took a hand at railroad building in what Dr. Dunbar describes as the "Great Fiasco."

Back in private hands, railroads eventually spanned the state to connect Lake Erie and Lake Michigan. Gradually the railroads ceased being adjuncts to water service and became portions of progressively larger and more comprehensive systems. But because of Michigan's peculiar geography, there has always been a definite marine aspect to operations of most of the state's rail lines. By the 1920s the automobile, a native product, was having a profound, and continuing, impact on Michigan railroads.

Dr. Dunbar traces virtually every railroad and electric interurban line which ever operated. Despite the abandonment of passenger service and much trackage, the author concludes that there is a place for this transport mode in the space age, adding that "the future may be even more exciting than the past." *308 pages, illustrations and maps. Price: $7.95. Wm. B. Eerdmans Publishing Co., Grand Rapids, Mich. 49502.*

TRAIN WRECK! by Wesley S. Griswold. In 16 chapters the author describes 18 passenger-train wrecks which often spurred the development or adoption of railway safety devices and improved operating practices. Opening the book is the 1833 derailment of a Camden & Amboy train which produced America's first recorded passenger fatalities; it was caused by a hot box. The final chapter tells of the baffling plunge of a Jersey Central commuter train through an open drawbridge in 1958. In between are described other disasters resulting from buckling and burning bridges, mechanical failures, signals mistaken or unseen, and outright human errors. The description of the 1876 Ashtabula (Ohio) bridge failure, which this reviewer has researched rather extensively, is accurate and comprehensive.

The choice of some of the accidents is puzzling. The author does not discuss the accident which produced America's greatest death toll. Some of his conclusions can be questioned. The description of a Southern Pacific derailment at Tehachapi, Cal., which does not rate on FRA's list of major railroad wrecks, ends with the statement that "since that January night in 1883 there has never been another major accident involving a runaway passenger train on any Class I U.S. railroad." Within the past quarter century Gallitzin, Pa., and Washington, D.C., come to mind. There certainly is validity in the author's observations that "human failure has survived the most ingenious efforts to anticipate or prevent it. That familiar troublemaker, one cannot help remarking in a day when efforts are being made to revive faltering railroad passenger service by speeding it up, can precipitate an accident as readily at 120 mph as at 60, and with predictable direful results." *150 pages, illustrations. Price $5.95. Stephen Greene Press, Brattleboro, Vt. 05301.*

—F.N.Houser

Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended February 28 totaled 512,684 cars, the Association of American Railroads announced on Mar. 6. This was a decrease of 1702 cars, or 0.3%, compared with the previous week; an increase of 4,480 cars, or 0.9%, compared with the corresponding week last year; and a decrease of 22,784 cars, or 4.3%, compared with the equivalent 1967 week. Ton-miles generated by carloadings in the week ended Feb. 28 are estimated at 14.8 billion, an increase of 3.2% above the corresponding week of 1969, and 0.7% above the 1968 week.

REVENUE FREIGHT CARLOADINGS

Commodity	Feb. 21 week	Feb. 14 week
Grain	27,693	26,413
Farm products	17,442	18,103
Metallic ores	21,415	20,034
Coal	99,117	98,038
Crushed stone, gravel & sand	19,906	19,654
Nonmetallic minerals	8,920	8,939
Grain mill products	20,173	20,809
Food & kindred products	26,483	26,337
Primary forest products	24,763	26,952
Lumber & wood products (except furniture)	14,046	14,601
Pulp, paper & allied products	24,734	24,536
Chemicals & allied products	30,128	29,578
Petroleum products	11,293	11,236
Stone, clay & glass products	16,950	16,415
Coke	8,438	8,522
Metals & products	28,266	27,214
Motor vehicles & equipment	22,107	19,684
Waste & scrap materials	15,600	15,615
Forwarder & shipper assn. traffic	7,973	7,702
All other carloads	67,602	66,016
LCL traffic	1,337	1,507
Total cars loaded	514,386	507,905

CUMULATIVE TOTAL, 8 WEEKS	1970	1969	1968
	3,865,826	3,952,892	3,969,098
Estimated revenue ton-miles (billions) weeks	111.4	111.2	108.5

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended Feb. 21 totaled 26,030 cars, carrying 43,970 trailers, compared with 26,020 cars, carrying 42,004 trailers, in the corresponding 1969 week. Loadings for 1970 up to Feb. 21 totaled 188,807 cars, carrying 321,539 trailers, compared with 193,153 cars, carrying 315,709 trailers, in the corresponding period of 1969.

FREIGHT-TRAIN CARS

● *Missouri-Kansas-Texas.*—Concluded an agreement with the United States Railway Equipment Co. whereby USRE will purchase, reconstruct and lease back 390 50-ton Katy box cars. Reconstruction of the 265 40-ft and 125 50-ft cars will begin in April.

● *Seaboard Coast Line.*—Is inviting bids for the purchase of $6,090,000 principal amount of equipment trust certificates to finance the purchase of 400 70-ton woodchip hopper cars and 100 70-ton woodchip gondola cars from Pullman-Standard. Estimated total cost of the cars is $7,623,320.

● *January bad order ratio 0.4% higher than last year.*—Class I roads on Jan. 1, 1970, owned 1,438,190 freight cars, 20,030 fewer than on Jan. 1, 1969, according to AAR report summarized below. Bad order ratio was 0.4% higher than on Jan. 1, 1969.

	Jan. 1, 1970	Jan. 1, 1969	Change
Car ownership	1,438,190	1,458,220	−20,030
Waiting repair	79,932	75,596	+ 4,336
Repair ratio	5.6%	5.2%	+ 0.4%

LOCOMOTIVES

● *Santa Fe.*—1970 motive-power program calls for acquisition of 120 diesel-electric units. EMD will build 61 2,000-hp GP38s and 10 3,600-hp SD45s; GE will build 49 2,250-hp U23Bs.

TRANSIT

● *BART.*—An $8.5 million contract for the last major section of trackwork on the Bay Area Rapid Transit line is in the hands of a joint venture made up of Dravo Corp., Gordon H. Ball, Inc., and Granite Construction Co. The group will lay 15 route miles of double-track, between Oakland and Daly City—including 3.6 miles in the underwater Trans-Bay tube. Dravo expected to begin work late last month; completion is scheduled for early summer of 1971.

● *Washington Metropolitan Area Transit Authority.*—Awarded a $568,000 contract to J. E. Greiner Co., Baltimore, for supervision of a half-mile of Metro construction work in the Union Station area. Bids for the actual construction, estimated to cost up to $15 million, are to be opened March 11.

NEW FACILITIES

● *Great Northern.*—Ordered two UNIVAC 418-III real-time computers, valued at $1.3 million, from Sperry Rand, to replace two smaller computers.

● *Louisville & Nashville.*—Will expand TOFC loading/unloading facilities at Terre Haute, Ind. The project will include relocation of the facility from the south end to the north end of Baker Yard, installation of a portable ramp, installation of floodlights and construction of a new trailer parking area.

● *Magma Copper Co.*—Ordered "Speed-Frater" electric switch machines from General Railway Signal for use in its San Morenci, Ariz., mine yard operations. The machines will come with solid-state remote control and portable transmitters.

● *Norfolk & Western.*—Will install stronger retarders and expand the classification capacity of the Roanoke terminal, at a cost of $2.9 million; expand the capacity of Luther yard from 900 to 1,750 cars and install car repair, locomotive and piggyback facilities and track scales, at a cost of $4.6 million; expand automobile facilities at Lorraine, Ohio, and Winston-Salem, N.C., at a total cost of $4.9 million; remodel Detroit-Windsor the floating auto facility, including conversion of three self-propelled car ferries to car floats, purchase of two tug boats and purchase and conversion of a fourth car ferry, at a total cost of $3 million; and construct a 25-mile line into Martin County, Ky., to serve four new coal mines.

● *Servo Corp.*—Announced initial shipments on a German National Railways order for more than $750,000 covering hot-bearing-detection equipment. Servo reports that its total overseas sales last year were the highest in the firm's history and that the present German contract represents a further major step toward standardization of Servo's infrared Hot Box Detectives on European and other world railroads. More than 12 countries now center their railroad safety programs around specific selection of the Servo equipment.

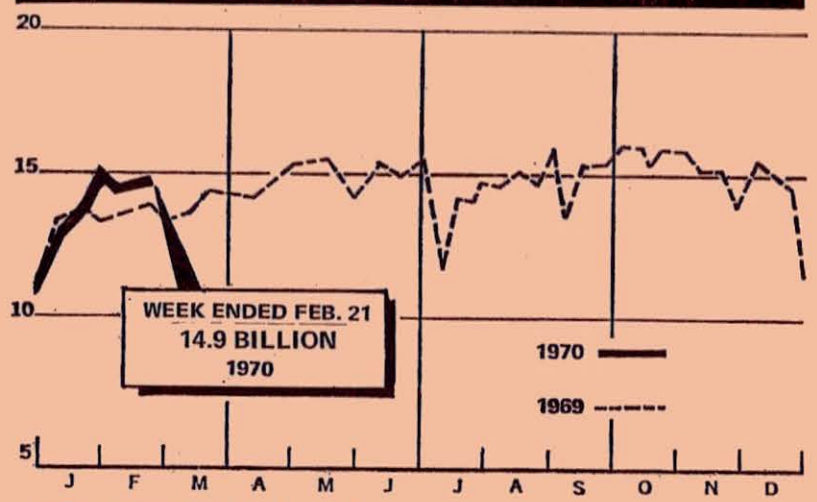
● *Union Pacific.* — Awarded a contract to Peter Kiewit Sons Co. for construction of a 12-story addition to the general office building in Omaha (RA, Sept. 15/22, 1968, p. 7). Construction is scheduled to begin in March.

Current Statistics

Net Income Class 1 Roads	
12 months, 1969	$875,000,000
12 months, 1968	569,000,000
New freight cars on order	
Feb. 1, 1970	44,201
Feb. 1, 1969	34,989
New freight cars delivered	
1 mo. 1970	4,282
1 mo. 1969	4,482
Serviceable cars	
Jan. 1, 1970	1,358,258
Jan. 1, 1969	1,382,624

RAIL FREIGHT TRAFFIC TRENDS

BILLION TON MILES (Estimated)



Source: Association of American Railroads

NEW ORDERS FOR MACHINE TOOLS*

	January 1970 ($000)	December 1969 ($000)	January-December % Change	Jan. 1970 Jan. 1969 % Change
Metal cutting tools	90,650	82,800	+9.5	-0.6
Metal forming tools	20,600	26,250	-21.5	-43.3

MACHINE TOOL SHIPMENTS*

	January 1970 ($000)	December 1969 ($000)	January-December % Change	Jan. 1970 Jan. 1969 % Change
Metal cutting tools	92,600	118,150	-21.6	+7.1
Metal forming tools	41,300	33,600	+22.9	+45.9

*Including foreign and domestic.
*Source: National Machine Tool Builders' Association.

RAILWAY AGE Stock Report

All statistics compiled, computed and formatted by TRADE*QUOTES Division of National Information Services, Inc. Cambridge, Mass. 02139

TWO WEEKS ENDED MONDAY, MARCH 2, 1970

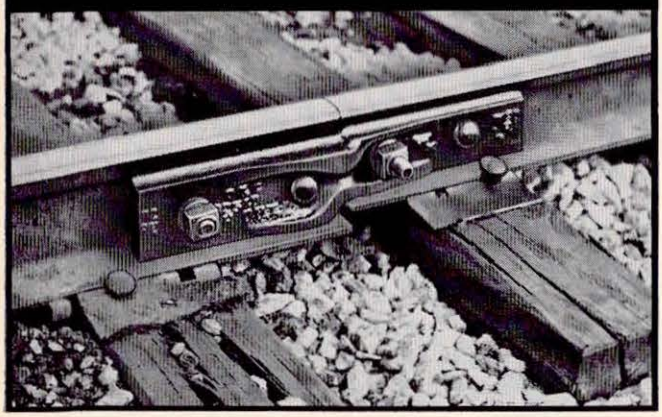
	PRICE 1969-70 RANGE (1)	PRICE 1 YEAR AGO	PRICE CLOSE MAR 2 1970	PRICE 2 WKS NET CHNG	PRICE 2 WKS PCT CHNG	VOLUME 2 WKS IN 00'S	VOLUME LAST 2 WKS 00'S	VOLUME AVGE IN 00'S (2)	INDEX PRICE JAN 2 1970	INDEX CHNG TO DATE (1)	INDEX PCT CHNG
RAILROADS											
CHESAPEAKE & OHIO	49- 75	67 3/8	52 3/4	- 3/8	-0.7	320	339	283	54 3/4	-2	-3.6
CHIC MILW ST.P & PAC	14- 58	52 3/4	19 1/4	-3 3/8	-14.9	792	753	543	16 3/8	+3	+17.5
CHIC, ROCK ISL & PAC	19- 31	27 1/2	20 1/4	- 3/8	-1.8	30	74	48	19 3/4	+1	+2.5
DERECO PFD B	50- 74	67 1/2	57	+1 1/2	+2.7	37	31	43	53 3/4	+3	+6.0
GREAT NORTHERN	39- 64	56 7/8	44 7/8	+2 7/8	+6.8	279	746	513	41 7/8	+3	+7.1
GULF, MOBILE & OHIO	63-118	105 1/2	73 1/4	+3	+4.2	38	39	35	63 1/2	+10	+15.3
LOUISVILLE & NASHVLL	70- 96	86 1/2	71 1/2	- 5/8	-0.8	74	41	74	71 1/4	0	+0.3
MISSOURI PACIFIC A	62- 87	81 1/8	66 1/2	+1 1/2	+2.3	6	11	12	63 1/4	+3	+5.1
NORFOLK & WESTERN	75-110	101 1/8	84 3/8	+4	+4.9	386	434	430	83 1/2	+1	+1.0
NORTHERN PACIFIC	37- 66	56 3/4	40 3/4	+1 3/4	+4.4	770	436	389	39	+2	+4.4
READING CO	11- 27	19 3/8	15 3/4	+1 1/2	+10.5	183	170	156	12 1/4	+4	+28.5
ST LOUIS-SAN FRNCSCO	38- 58	48 1/4	43 1/4	+2 1/2	+6.1	115	75	121	40 3/8	+3	+7.1
SOO LINE	25- 44	39 3/4	31 1/4	+3	+10.6	69	92	57	27 1/4	+4	+14.6
SOUTHERN	42- 66	58	48 3/4	+1 7/8	+4.0	324	425	367	46 3/4	+2	+4.2
WESTERN PACIFIC	15- 46	40	18	-1	-5.2	145	386	362	19 1/2	-2	-7.6
DIVERSIFIED COMPANIES											
CANADIAN PACIFIC	60- 94	81 7/8	68 1/2	+4 1/2	+7.0	185	74	109	73 1/2	-5	-6.8
ILLINOIS CENTRAL IND	26- 36	40	28 7/8	+ 3/8	+1.3	2926	385	1233	30 5/8	-2	-5.7
KATY INDUSTRIES	9- 29	22 5/8	12	+ 1/8	+1.0	624	191	370	10 5/8	+1	+12.9
NORTHWEST INDUSTRIES	11- 28	33 7/8	15 5/8	- 1/4	-1.5	1691	2702	1837	13 3/4	+2	+13.6
PENN CENTRAL CO	25- 72	59 3/8	25 7/8	- 1/4	-0.9	1780	2999	2679	29 1/2	-4	-12.2
RIO GRANDE INDUST	11- 20	N/A	13 5/8	+1 7/8	+15.9	270	151	157	11 3/4	+2	+15.9
SANTA FE INDUSTRIES	23- 40	34 7/8	24 1/2	+ 5/8	+2.6	1698	1503	1386	25	-1	-2.0
SOUTHERN PACIFIC CO	30- 47	40 3/4	35 1/4	+2 7/8	+8.8	1395	875	1068	33 1/4	+2	+6.0
UNION PACIFIC CORP	40- 54	N/A	44 5/8	+3 3/8	+8.1	982	587	750	46	-1	-2.9
MOTOR CARRIERS											
ASSOCIATED TRANSPORT	9- 19	17 3/8	9	+ 1/4	+2.8	53	145	99	11 3/4	-3	-23.4
CONSOL FREIGHTWAYS	24- 44	35 5/8	25 3/4	- 1/4	-0.9	387	512	683	28 1/2	-3	-9.6
MC LEAN TRUCKING CO	33- 65	57 1/8	37	+1	+2.7	36	289	201	44 3/8	-7	-16.6
OVERNITE TRANSPORT'N	18- 34	28 5/8	19	0	0.0	63	60	63	18 5/8	0	+2.0
PAC INTERMTN EXPRESS	12- 34	29 1/4	13 7/8	+1 1/8	+8.8	235	366	204	15 3/4	-2	-11.9
ROADWAY EXPRESS	20- 29	26	22	+1 1/2	+7.3	(3)	-	-	26 1/2	-5	-16.9
TRANSCON LINES	9- 17	19 7/8	10	+ 1/2	+5.2	355	429	544	11 1/2	-2	-13.0
YELLOW FRGHT SYSTEM	21- 30	69	23	+1 1/2	+6.9	(3)	-	-	25 1/2	-3	-9.8
AIRLINES											
AMERICAN AIRLINES	21- 39	32 5/8	29 5/8	+1 3/8	+4.8	2433	4993	6030	31	-1	-4.4
DELTA AIR LINES	26- 40	36 1/4	34 1/2	+2 7/8	+9.0	2105	2199	2110	30 3/4	+4	+12.1
EASTERN AIR LINES	12- 32	27 1/2	17 1/2	+2 1/4	+14.7	4328	2984	3136	15 1/2	+2	+12.9
TRANS WORLD AIRLINES	17- 49	43	20 1/4	+ 1/4	+1.2	1965	2198	2186	23 7/8	-4	-15.1
UAL INC (UNITED)	20- 49	42 1/8	25 3/8	+ 3/4	+3.0	2011	3888	3122	28	-3	-9.3

ALL BUT TWO OF THE ABOVE SECURITIES ARE LISTED ON THE NEW YORK STOCK EXCHANGE; ROADWAY EXPRESS AND YELLOW FREIGHT SYSTEM ARE TRADED OVER-THE-COUNTER.

(1) TO NEAREST DOLLAR
(2) AVERAGE TWO-WEEK TRADING VOLUME SINCE JANUARY 1, 1970
(3) VOLUME IS NOT REPORTED FOR OVER-THE-COUNTER ISSUES

Q AND C STEP JOINTS

proven in service and preferred!



Through the years Q and C Compromise Joints have set a notable in-service record for accuracy and dependability.

They are designed with particular reinforcement where it counts most — at the vital center, on both the front and back of the bar — to assure maximum rail-end durability.

Q and C Step Joints are available in cast alloy steel and in rolled-forged steel.

Let them demonstrate real economies for you... Specify Q and C Compromise Joints on your next requisition.

OTHER Q and C PRODUCTS

- Switch Point Guards
- Derails
- Guard Rail Clamps
- Gauge Rods
- Ballast Heaters
- Rerailers
- Track Skates
- Anti-Slip Rail Tongs
- Bumping Post

See them all—with complete ordering information in your copy of our Maintenance-of-Way Equipment Catalog.

MEMBER RPI RAILWAY PROGRESS INSTITUTE

WC **WESTERN-CULLEN DIVISION**
Federal Sign & Signal Corporation
2702 W. 36th PLACE • CHICAGO, ILL. 60632

CANADA: Woodings Canada, Ltd., 5 Place Ville Marie, Montreal 2, Que.

Circle 35 on coupon page 43

Eye appeal and wear resistance make the ideal combination for modern transit flooring. Decorator Transit-Flor offers 20 marbleized color patterns, plus 12 terrazzo styles, to blend or contrast in new or existing interiors. Low-maintenance rubber stands up to grueling wear, foul weather . . . and even supplies best resistance to cigarette scorch. Rubber's natural resilience provides underfoot safety . . . in double-grooved rib or smooth surface flooring. Step treads come in blending or matching colors.

Write for prices and FREE color samples

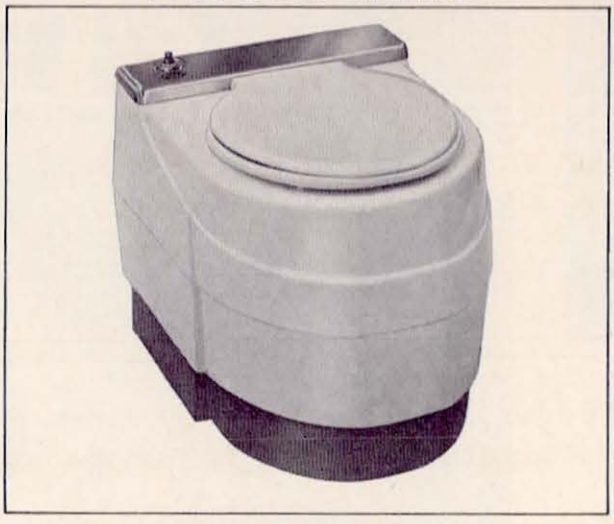
THE R.C.A. RUBBER COMPANY
an Ohio Corp. of Akron, Ohio

1833 E. Market St., Akron, Ohio 44305
The Leader in Rubber Transit Flooring & Step Treads

Circle 36 on coupon page 43

REWARD

FOR CUSTOMERS



Monogram's 12800-001

ALIASES

New-matic toilet, Air-operated toilet, Self-contained toilet, Recirculating toilet, Flushing toilet.

LAST SEEN IN

Cabooses, Locomotives, Camp Cars, Bar Cars, and Passenger Cars.

WANTED

for Monthly Service, Economy, Low cost, Dependability, Immunity to freezing temps. and only ONE moving part.

Any information leading to the capture of a 12800-001 air toilet may be obtained from:

Monogram Industries, Venice Division
3226 Thatcher, Venice, Calif. 90291
Phone: (213) 870-8772

Circle 37 on coupon page 43

Joel F. Garrison
Alco Spring

Wm. C. Cunningham
Alco Spring

(Continued from page 65)

Joel F. Garrison has been appointed president, **Alco Spring Industries, Inc.,** Chicago Heights, Ill., a subsidiary of **Alco Products, Inc.** Mr. Garrison, who was formerly vice president, **Organization Research Corp.,** New York, replaces **Paul N. Strobell. William C. Cunningham,** sales manager of the Spring company, has been named manager sales and marketing.

George Schmidt, director of engineering, **Strick Corp.,** has been named director of a newly established research and development center at Fairless Hills, Pa. The center, which is part of a multi-million dollar expansion program, will concentrate on total transportation systems and concepts as well as transportation products.

The Rail-Trailer Co. has formed a wholly-owned subsidiary, **TOFC Systems, Inc.,** which will manage a nationwide system of intermodal piggyback terminals and provide trailers, containers and demountable chassis on a leasing and national pooling basis, related local cartage services, logistic systems control of equipment inventory, and total distribution capabilities on a national basis. **Richard A. Heise,** president, **Rail-Trailer,** has been named president, **TOFC Systems.**

Nalco Chemical Co., Chicago, has announced the following appointments in its newly formed **Industrial Division,** headquartered in Chicago: **William V. Cross,** vice president, marketing; **William T. Snyder,** vice president production; **Alvin J. Frisque,** vice president, divisional research; **Roland W. Graff,** manager, industrial chemicals.

Transport Leasing Division, Pullman Incorporated, has opened a southwest regional sales office at Houston. **Donald E. Jessie** has been named manager of the new office.

TRANSIT

David Q. Gaul, formerly executive secretary, **Institute for Rapid Transit,** appointed operations engineer, **Washington Metropolitan Area Transit Authority,** effective March 1.

John C. Kohl has been appointed Commissioner, **Transportation Department, State of New Jersey,** succeeding **David J. Goldberg,** resigned.

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Viewpoint

Getting the jet set to their jets: Who pays?

Nearly everybody agrees that the best way to get to a big-city airport is by rail or some other form of mass rapid transit—not over freeways already jammed lane to lane with air travelers having quiet nervous breakdowns as they miss their flights.

But while the need for better airport access is clearly recognized (as David Thaler's special report in this issue demonstrates), what is far less clear is: Who is going to pay for it?

Hang on to your seatbelts, ladies and gentlemen. We are about to advance the novel proposition that it is the job of the air industry to pay for getting air travelers to their airplanes on time. We are going on record with the outrageous proposal that a part of the $5-billion fund now being created to build more airports and more airways be diverted to the purchase of a fleet of airport trains, and the building of tracks to run them on.

Whose responsibility is airport access, anyway?

It is not primarily the responsibility of the cities, though they will help (because good air service is an important part of any city's future).

It is not primarily the responsibility of established transit authorities, though they, too, will lend a hand (because the efficient movement of all people is their business).

It is not even, we suggest, primarily the responsibility of the Urban Mass Transportation Administration. UMTA's own meager funds—which will still be comparatively meager even if the pending $3-billion transit-aid bill is passed—must be spread thinly across the land. UMTA will help, and is already helping, insofar as airport access is part of any broad urban/regional transportation proposal. But UMTA's first responsibility is to help meet the pressing needs of all the people—not the comparatively few who fly, and who can and do pay handsomely for the privilege once they are inside the airport gate.

So we get back to the air industry itself, which has its own agency within DOT, the Federal Aviation Administration. It is here that the $5-billion airport/airways fund is being created.

Why not divert a small part of this fund to the construction of access lines without which the grandest airport, the most costly airways system, cannot efficiently operate?

The airlines are cool to the idea. They feel that their responsibility ends at the gate. They point out that the $5-billion airport/airways fund comes not from general taxes, but from user charges which the airlines and, indirectly, their customers pay. User funds, they chant piously, should be used by the user.

Well, who in the world will "use" airport access lines if not the air travelers? "The general public will use them, that's who," reply the airlines. The non-flying working men and women (as Cleveland's experience has shown) will take advantage of an airport line if it's there.

Granted. That's why it makes sense for UMTA—with part of its hoped-for $3 billion—and the cities, with part of their matching funds, to pick up part of the tab. But is there any good reason why FAA and the airlines shouldn't pick up their part, too?

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